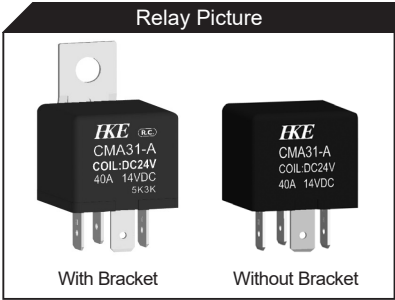




- ### Features
- Heavy duty general purpose automotive relay
Dimensions: 27.8×27.8×24.6(mm)
 - Switching capacity 40A
 - Available in 2 mounting options, socket or bracket mount
 - Applications: air compressor, heater, fan motor, blower fan, defogger, etc



ORDERING INFORMATION

CMA31 - DC12V - A - R - T

Model	Coil Voltage	Contact Form	Parallel Electronic Component	Operating Temperature
	DC6V DC12V DC24V	A - 1 Form A B - 1 Form B C - 1 Form C	Blank - Standard R- With Resistor (6V-180Ω,12V-680Ω,24V-2700Ω) D- With Diode	Blank - -40°C to +85°C T - -40°C to +125°C

Remark: Available in 2 mounting options, with bracket or without bracket

SPECIFICATION

CONTACT DATA

Contact Form	1 Form A, 1 Form B, 1 Form C		
Contact Material	Ag Alloy		
Contact Rating (Resistive)	12VDC: 40A14VDC(A) 30A14VDC(B) 30A14VDC(C)	24VDC: 20A28VDC(A) 10A28VDC(B) NO/NC20A/10A28VDC(C)	
	Contact Resistance		Max. 100mΩ (6VDC 1A)
Load	Max. Switching Voltage	75VDC	
	Max. Switching Current	Refer to table1	
	Max. Switching Power	420W(C), 560W(A)	
Life	Electrical	100,000 operations	
	Mechanical	10,000,000 operations	

COIL DATA

Nominal Coil Power	1.6W
Nominal Coil Power(With Resistor)	1.8W

GENERAL DATA

Insulation Resistance	Min.100MΩ 500VDC	
Dielectric Strength	Between open contacts	550VAC,1min
	Between coil and contacts	550VAC,1min
Operate Time	Max.10ms	
Release Time	Max.10ms	
	Max.20ms(With Diode)	
Operating Temperature	-40°C to +85°C, -40°C to +125°C(T)	
Humidity	35~95%RH, +40°C	
Shock Resistance	Endurance	1,000m/s ²
	Misoperation	100m/s ²
Vibration Resistance	Endurance	10~55Hz, 1.5mm double amplitude
	Misoperation	10~55Hz, 1.5mm double amplitude
Weight	Approximately 37.0g (Bracket) Approximately 32.0g (Without Bracket)	

Note:Data shown are of initial value

Table 1 (Maximum Load Current)

Load	1 Form A	1 Form B	1 Form C	
			NO	NC
Contact Rating Current	40A	30A	40A	30A
Max. Make Current	100A	60A	100A	30A
Max. Break Current	40A	30A	40A	30A

COIL DATA

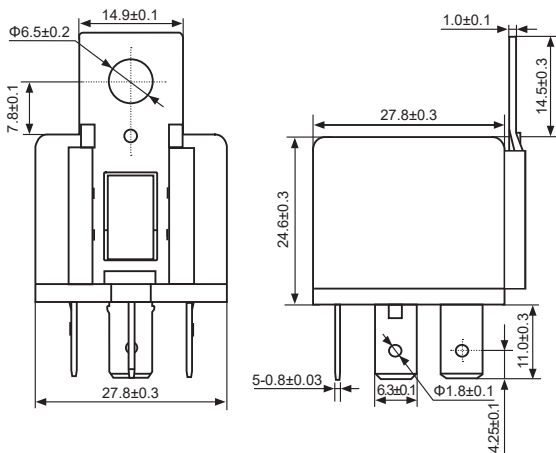
Ambient Temperature: 23°C

Model	Nominal Voltage VDC	Coil Resistance $\Omega \pm 10\%$	Parallel Resistance $\Omega \pm 5\%$	Equivalent Resistance $\Omega \pm 10\%$	Operate Voltage \leq VDC	Release Voltage \geq VDC	Coil Power W
CMA31-DC6V	6	22.5	-	-	4.2	0.6	1.6
CMA31-DC12V	12	90.0	-	-	8.4	1.2	
CMA31-DC24V	24	360	-	-	16.8	2.4	
CMA31-DC6V(R)	6	22.5	180	20.0	4.2	0.6	1.8
CMA31-DC12V(R)	12	90.0	680	79.5	8.4	1.2	
CMA31-DC24V(R)	24	360	2700	317.6	16.8	2.4	

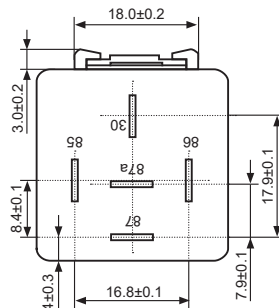
OUTLINE, WIRING DIAGRAM, MOUNTING HOLE LAYOUT (UNIT: mm)

With Bracket

Outline



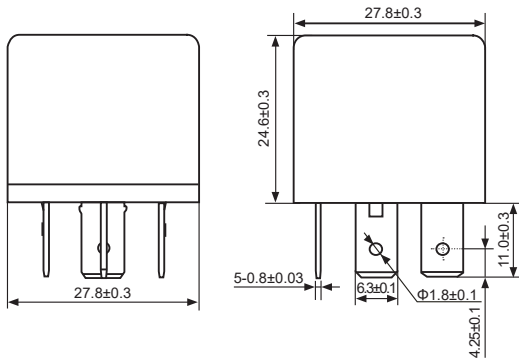
Mounting Hole Layout
(Bottom View)



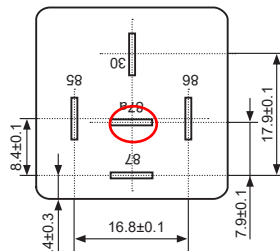
Remark: Form A: Without 87a terminal
Form B: Without 87 terminal
Form C: With all terminals

Without Bracket

Outline



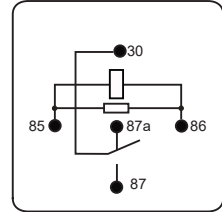
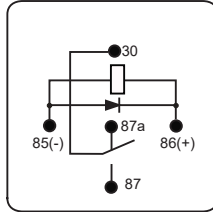
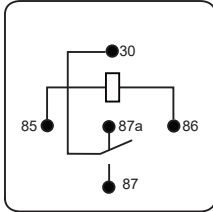
Mounting Hole Layout
(Bottom View)



Remark: ~~Form A: Without 87a terminal~~
Form B: Without 87 terminal
Form C: With all terminals

DIMENSIONS, WIRING DIAGRAM, MOUNTING HOLE LAYOUT (UNIT: MM)

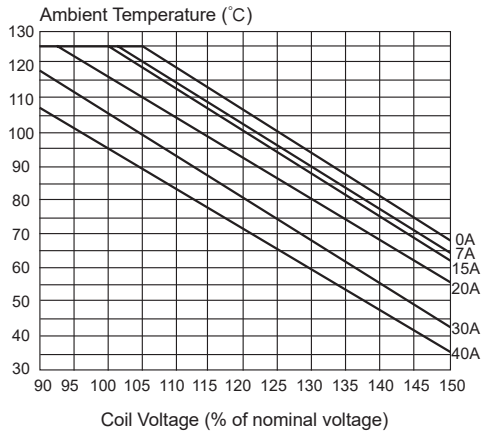
Wiring Diagram
(Bottom View)



Remark: Form A: Without 87a terminal
Form B: Without 87 terminal
Form C: With all terminals

REFERENCE DATA

Continuous coil voltage range



Maximum Switching Power

