

### »» Features

- ☐ Low cost & high power automotive relay 30A/50A.
- ☐ High temperature endurance up to 125 degree C.
- ☐ Optional SPNC, SPNO, SPDT, DPNO contact configurations.
- ☐ Optional to be equipped with protection diode or resistor.
- ☐ Both available PCB terminal and quick connect terminal versions.
- ☐ Available for plain cover type, skirted cover flanged cover, and weather proof versions.
- ☐ Tinned terminal is available on request.

### »» Type List

Terminal style	Contact form	Enclosure style		
		Dust cover	Flux tight	Sealed type washable
Socket terminal	1A (SPNO)	896-1AH-D	896-1AH-C	896-1AH-S
		896H-1AH-D	896H-1AH-C	896H-1AH-S
	1B (SPNC)	896-1BH-D	896-1BH-C	896-1BH-S
		896H-1BH-D	896H-1BH-C	896H-1BH-S
	1C (SPDT)	896-1CH-D	896-1CH-C	896-1CH-S
		896H-1CH-D	896H-1CH-C	896H-1CH-S
	2A (DPNO)	896-2AH-D	896-2AH-C	896-2AH-S
		896H-2AH-D	896H-2AH-C	896H-2AH-S
PCB terminal	1A (SPNO)	896P-1AH-D	896P-1AH-C	896P-1AH-S
		896HP-1AH-D	896HP-1AH-C	896HP-1AH-S
	1B (SPNC)	896P-1BH-D	896P-1BH-C	896P-1BH-S
		896HP-1BH-D	896HP-1BH-C	896HP-1BH-S
	1C (SPDT)	896P-1CH-D	896P-1CH-C	896P-1CH-S
		896HP-1CH-D	896HP-1CH-C	896HP-1CH-S
	2A (DPNO)	896P-2AH-D	896P-2AH-C	896P-2AH-S
		896HP-2AH-D	896HP-2AH-C	896HP-2AH-S

Terminal style	Contact form	Enclosure style		
		Flanged cover (dust cover)	Flanged cover (flux tight)	Flanged cove (sealed type washable)
Socket terminal	1A (SPNO)	896-1AH-D1	896-1AH-C1	896-1AH-S1
		896H-1AH-D1	896H-1AH-C1	896H-1AH-S1
	1B (SPNC)	896-1BH-D1	896-1BH-C1	896-1BH-S1
		896H-1BH-D1	896H-1BH-C1	896H-1BH-S1
	1C (SPDT)	896-1CH-D1	896-1CH-C1	896-1CH-S1
		896H-1CH-D1	896H-1CH-C1	896H-1CH-S1
	2A (DPNO)	896-2AH-D1	896-2AH-C1	896-2AH-S1
		896H-2AH-D1	896H-2AH-C1	896H-2AH-S1

Terminal style	Contact form	Enclosure style		
		Steel bracket ( dust cover)	Steel bracket (flux tight)	Steel bracket (sealed type washable)
Socket terminal	1A (SPNO)	896-1AH-D1S	896-1AH-C1S	896-1AH-S1S
		896H-1AH-D1S	896H-1AH-C1S	896H-1AH-S1S
	1B (SPNC)	896-1BH-D1S	896-1BH-C1S	896-1BH-S1S
		896H-1BH-D1S	896H-1BH-C1S	896H-1BH-S1S
	1C (SPDT)	896-1CH-D1S	896-1CH-C1S	896-1CH-S1S
		896H-1CH-D1S	896H-1CH-C1S	896H-1CH-S1S
	2A (DPNO)	896-2AH-D1S	896-2AH-C1S	896-2AH-S1S
		896H-2AH-D1S	896H-2AH-C1S	896H-2AH-S1S

Terminal style	Contact form	Designation (provided with)	Enclosure style	
			Steel bracket ( dust cover with shroud)	Steel bracket ( dust cover with weather proof)
Socket terminal	1C (SPDT)	Resistor <sup>(1)</sup>	896H-1CH-D1SF-R1	896H-1CH-D1SW-R1

Note : (1) 12VDC COIL: 680  $\Omega$  Resistor in parallel 、 24VDC COIL: 2700  $\Omega$  Resistor in parallel

## »» Ordering Information

896      H      P      -   1CH      -   C      -   R1      001  
1          2          3          4          5          6          7

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|--|--|
| <p>1. 896 -- Basic series designation</p> <p>2. Blank -- Standard type<br/>H -- High power type</p> <p>3. Blank -- Socket terminal<br/>P -- PCB terminal</p> <p>4. 1AH -- Single pole normally open, contact material AgSnO<br/>1BH -- Single pole normally closed, contact material AgSnO<br/>1CH -- Single pole double throw, contact material AgSnO<br/>2AH -- Double pole double make, contact material AgSnO</p> <p>5. D -- Dust cover<br/>C -- Flux tight<br/>S -- Sealed type washable<br/>C1 -- Flanged cover (flux tight)</p> | <p>D1 -- Flanged cover (dust cover)<br/>S1 -- Flanged cover (sealed type washable)<br/>D1S -- Steel bracket (dust cover)<br/>C1S -- Steel bracket (flux tight)<br/>S1S -- Steel bracket (sealed type washable)<br/>D1SF -- Steel bracket (dust cover with shroud)<br/>D1SW -- Steel bracket (dust cover with weather proof)</p> <p>6. Blank -- Standard type<br/>R1 -- Coil parallel with resistor 1/2W for 12V 680 <math>\Omega</math> , 24VDC 2700 <math>\Omega</math></p> <p>7. Blank -- Standard type<br/>001 -- Coil parallel with diode IN4007 the positive pole "+" on # 85 terminal<br/>002 -- Coil parallel with diode IN4007 the negative pole "-" on # 85 terminal<br/>T -- Special requirement for Tin plated terminal</p> |
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## »» Contact Rating

Type	896 1A	896 1B	896 1C
Resistive load	40A 14VDC	40A 14VDC	NO : 40A 14VDC NC : 30A 14VDC

Type	896H 1A	896H 1B	896H 1C	896H 2A
Resistive load	50A 14VDC	40A 14VDC	NO : 50A 14VDC NC : 30A 14VDC	2×30A 14VDC

## »» Coil Rating(DC)

Rated voltage (V)	Rated current ±10 % at 23 °C (mA)	Coil resistance ±10 % at 23 °C (Ω)	Max. continuous Voltage at 85 °C <sup>(1)</sup>	Pick up voltage(Max) at 23 °C	Drop out voltage(Min) at 23 °C	Power consumption at rated voltage
12	133	90	120 % of rated voltage	65 % of rated voltage	10 % of rated voltage	approx. 1.6W
24	66.7	360				

Notes : (1) Without switching the load.

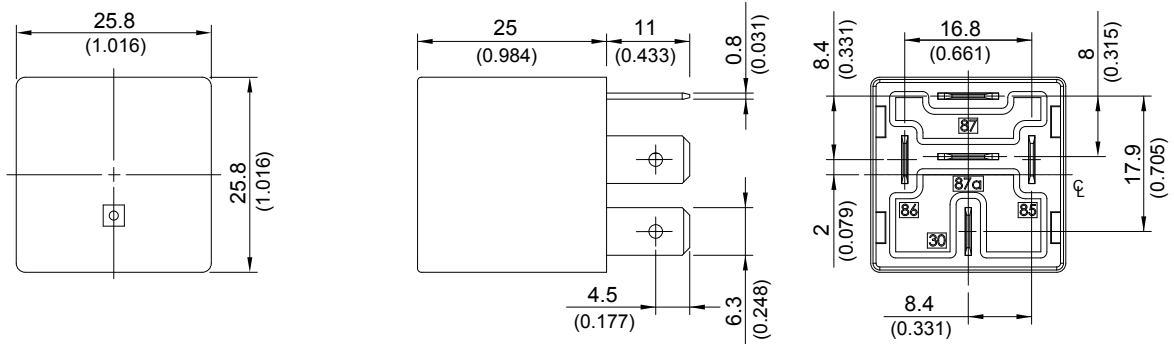
## »» Specification

Contact material	AgSnO alloy	
Contact voltage drop <sup>(1)</sup>	Typ. 50mV at 10A	
Insulation resistance <sup>(1)</sup>	20MΩ Min. (DC 500V)	
Operate time <sup>(1)</sup>	20ms Max.	
Release time <sup>(1)</sup>	20ms Max.	
Dielectric strength <sup>(1)</sup>	Between open contact	: AC 500V , 50/60Hz 1 min.
	Between contact and coil	: AC 500V , 50/60Hz 1 min.
Vibration resistance	Operating extremes	10~55Hz , amplitude 2mm
Shock resistance	Operating extremes	10G
	Damage limits	100G
Life expectancy	Mechanical	10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	100,000 operations (frequency 1,200 operations/hr)
Temperature range	Operating	-40~+125 °C (no freezing)
Weight	Approx. 40 g	

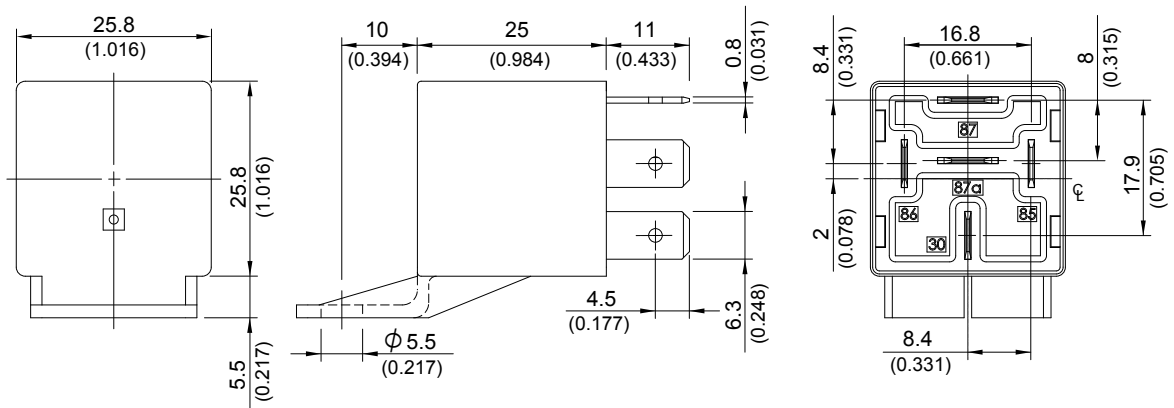
Note : (1) initial value

# »» Outline Dimensions

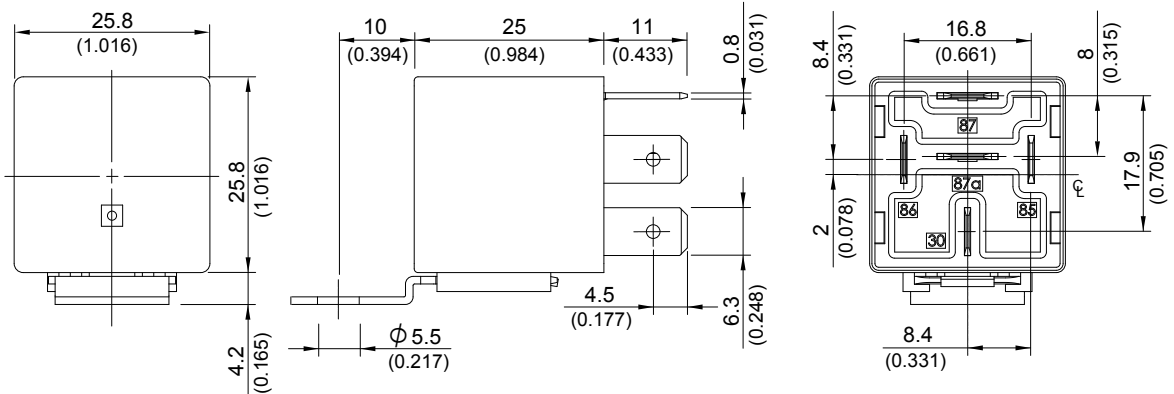
## ◆896,896H (C,D,S)



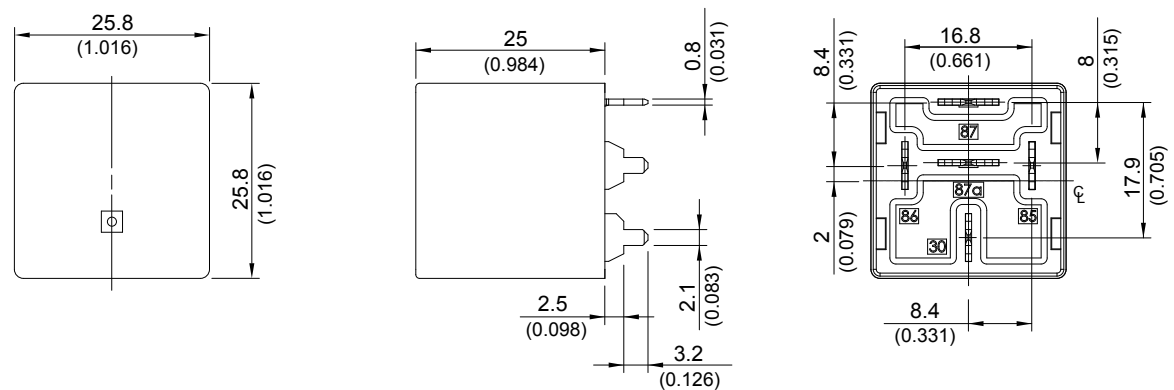
## ◆896,896H (C1,D1,S1)



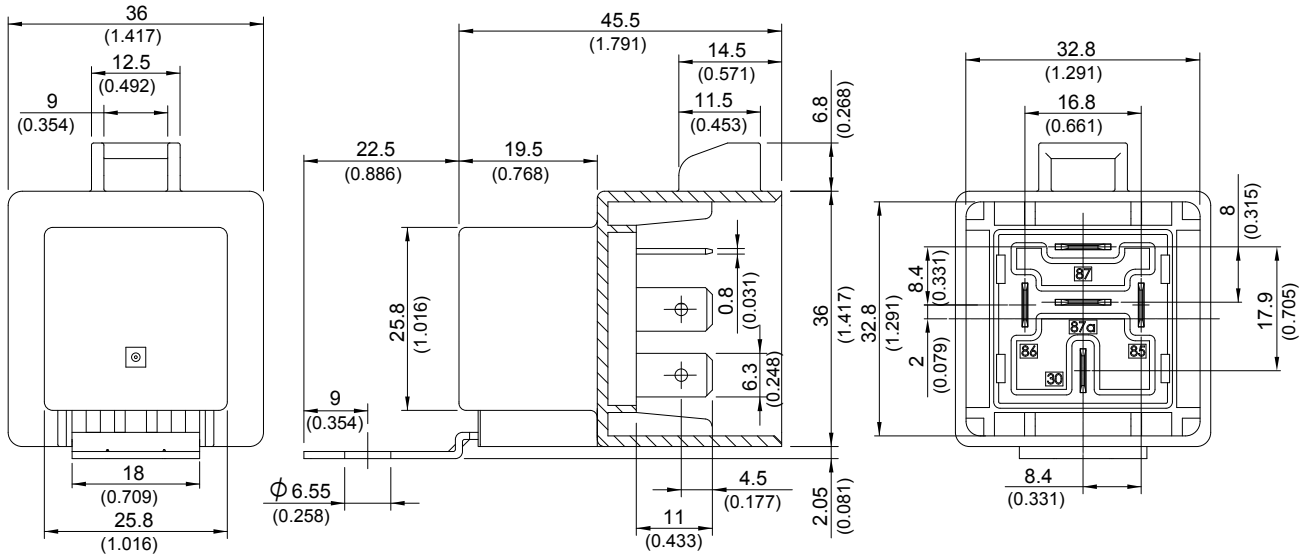
## ◆896,896H (C1S,D1S,S1S)



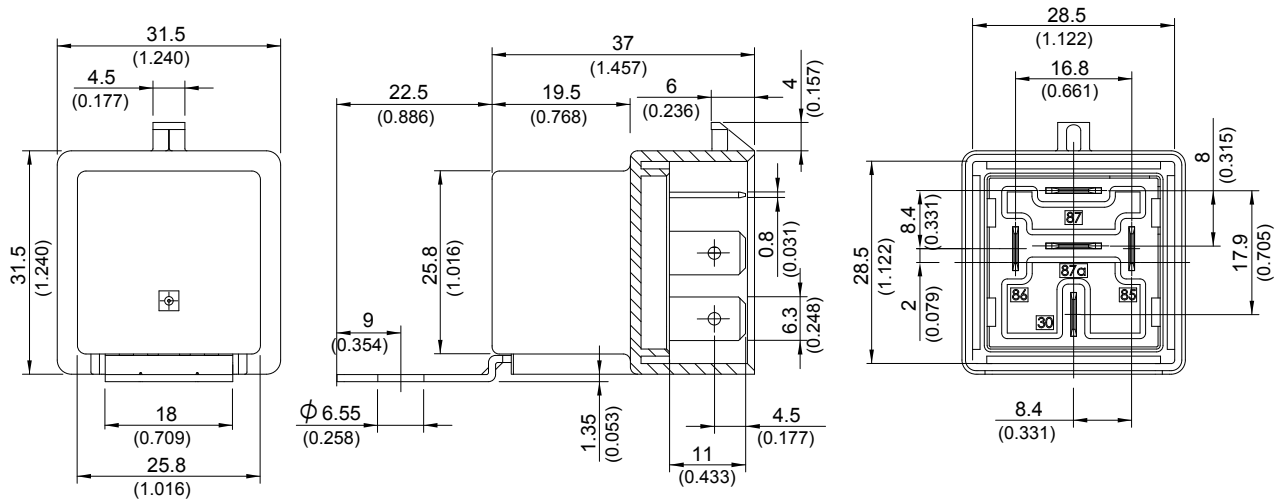
## ◆896P,896HP (C,D,S)



## ◆896H (D1SW)



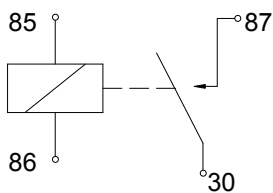
## ◆896H (D1SF)



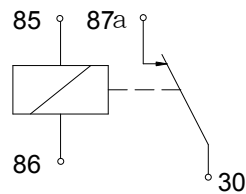
## »» Wiring Diagram

BOTTOM VIEW

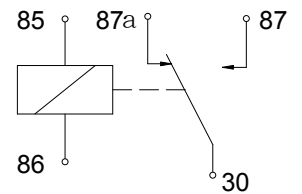
1A



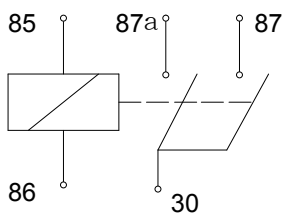
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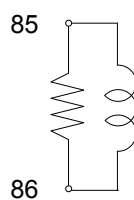
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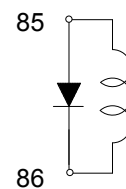
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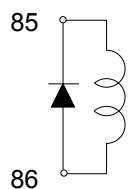
R1



001

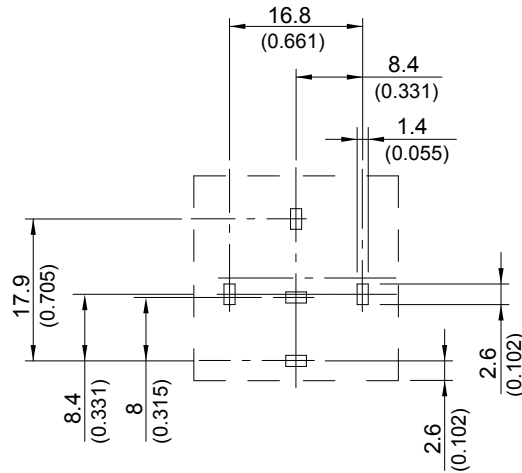


002



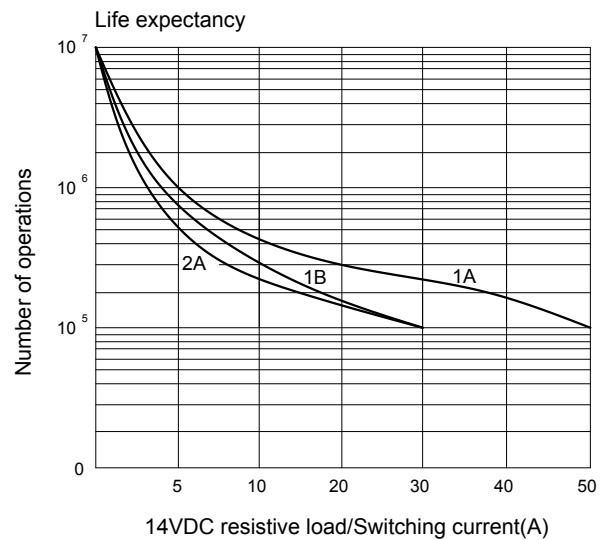
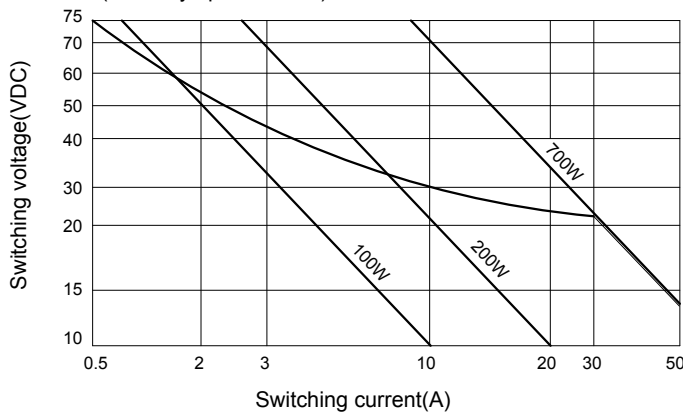
## »» PC Board Layout

BOTTOM VIEW

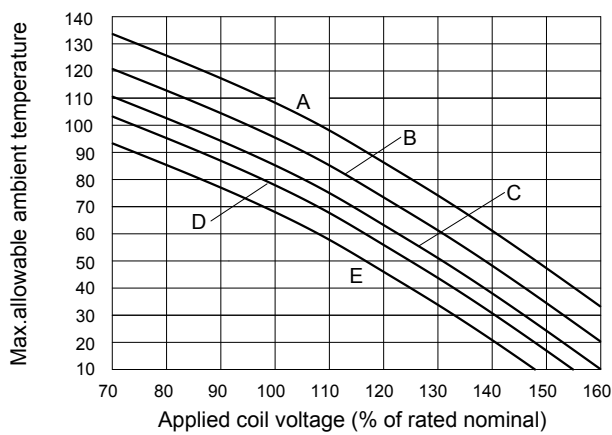


## »» Engineering Data

Safe breaking, arc extinguished  
(normally open contact) for resistive loads.



Ambient temperature vs coil voltage for continuous duty



A:0A B:25A C:30A D:40A E:50A Contact load(resistive)

Maximum mean coil temperature=155°C

Operate time/Release time

