

FEATURES

- 6A switching capacity
- Only 5mm wide
- Sensitive coil 180mW
- Comply IEC60335-1 available
- Application: PLC, Elevator, Light Control

CONTACT RATINGS

Contact Arrangement	1C, 1A
Contact Resistance	≤100mΩ (1A 6VDC)
Contact Material	AgSnO
Contact Rating(Resistive)	6A 277VAC, 6A 24VDC
Max. Switching Voltage	277VAC/30VDC
Max. Switching Current	6A
Max. Switching Power	1662VA/180W
*Min. Switching Power	With Au plated: 10mA 24VDC Without Au plated: 100mA 24VDC
Mechanical Life	1×10 ⁷ operations
Electrical Life	See more details at "safety approval ratings"

Note: 1) Min. switching power mentioned above are reference values.

2) If your actual load current is less than 100mA, please perform the confirmation test with actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

3) It is recommended to avoid using the relay when the temperature is below 0°C.

4) For more information, please contact us.

CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Between coil & contacts	5000VAC 1min(50Hz/60Hz)
	Between open contacts	1000VAC 1min(50Hz/60Hz)
Operate time (at nomi. volt.)		≤10ms
Release time (at nomi. volt.)		≤5ms
Humidity		5 to 85% R.H.
Operation temperature		-40°C~+85°C
Insulation System		UL Class F
Shock Resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration Resistance	Functional	10Hz to 55Hz 1mm DA
	Destructive	10Hz to 55Hz 1mm DA
Unit weight		Approx. 5g
Construction		Flux Tight Type, Sealed Type

Notes: The data shown above are initial values.

ORDERING INFORMATION

	HAP04	F	1C	DC24	B	G	-	E	-	XXXX
Model										
F: Class F										
1C: 1 Form C										
1A: 1 Form A										
Coil Voltage										
Nil: PCB, vertical version										
B: PCB, flat pack version										
Nil: AgSnO without Au plated										
G: AgSnO with Au plated										
E: Flux Tight Type										
S: Sealed Type										
Customer Code										

Notes: 1) PC board assembled with flux tight type relays can not be washed and/or coated.

2) Flux tight type relays can not be used in the environment with dust, or H₂S, SO₂, NO₂ or similar gaseous environment etc.

This datasheet is for customers' reference. All the specifications are subject to change without notice.

HAP04 SERIES

POWER RELAY

COIL DATA

at 25°C

Nominal Voltage VDC	Operate Voltage (Max.) VDC	Release Voltage (Min.) VDC	*Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.40	0.15	3.6	50×(1±10%)
5	4.00	0.25	6.0	139×(1±10%)
6	4.80	0.30	7.2	200×(1±10%)
9	7.20	0.45	10.8	450×(1±10%)
12	9.60	0.60	14.4	800×(1±10%)
15	12.00	0.75	18.0	1250×(1±10%)
18	14.40	0.90	21.6	1800×(1±10%)
24	19.20	1.20	28.8	3200×(1±10%)
36	28.80	1.80	43.2	5180×(1±10%)
48	38.40	2.40	57.6	9200×(1±10%)
60	48.00	3.00	72.0	14400×(1±10%)

Note: "Max Allowable Voltage": The relay coil can endure max allowable voltage for a short period time only.

SAFETY APPROVAL RATINGS

Agency approval pending	1A	N.O.: 6A 277VAC/24VDC, Resistive, 3×10 ⁴ OPS, 85°C
	1C	N.O.: 6A 277VAC/24VDC, Resistive, 3×10 ⁴ OPS, 85°C N.C.: 6A 277VAC/24VDC, Resistive, 1×10 ⁴ OPS, 85°C

Notes: 1) All values without specified temperature are at 25°C.

2) The above lists the typical loads only. Other loads may be available upon request.

COIL

Coil Power	3VDC ~ 24VDC 180mW
	36VDC ~ 60VDC 250mW

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

Outline Dimensions

Wiring Diagram (Bottom view)

PCB Layout (Bottom view)

1C Vertical Version			
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Tel:13650051936

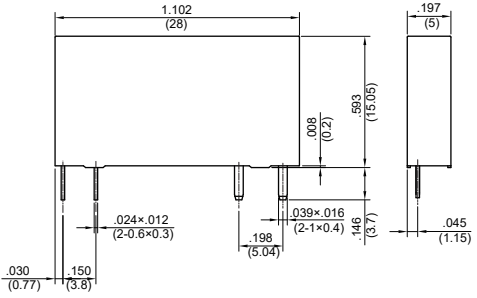
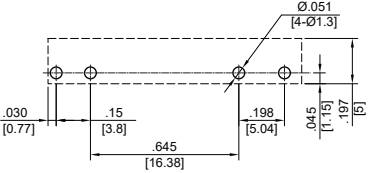
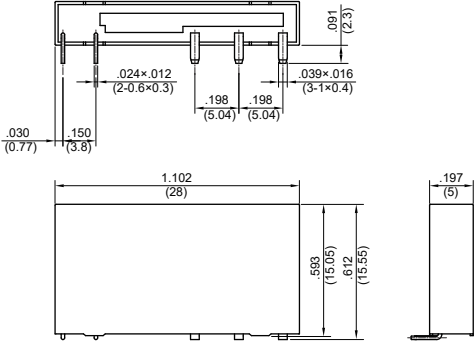
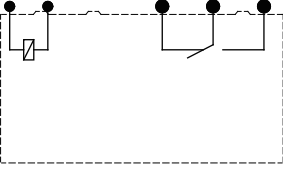
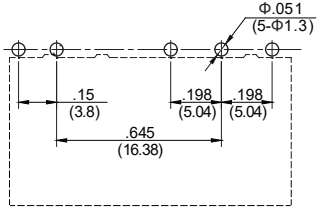
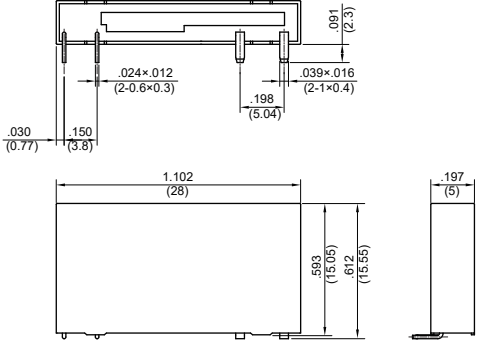
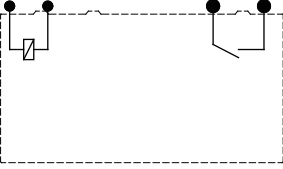
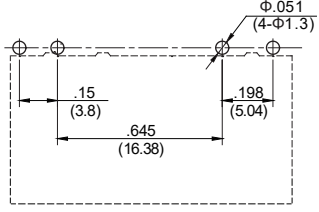
Website : www.edamcn.com

Email: leo@edamcn.com

RELAYS

HAP04 SERIES

POWER RELAY

1A Vertical Version			
1C Flat Pack Version			
1A Flat Pack Version			
Unless otherwise specified tolerances are:			
≤1mm	> 1mm and ≤5mm	> 5mm	* The tolerance without indicating for PCB layout is always ±0.1mm.
±0.2mm	±0.3mm	±0.4mm	

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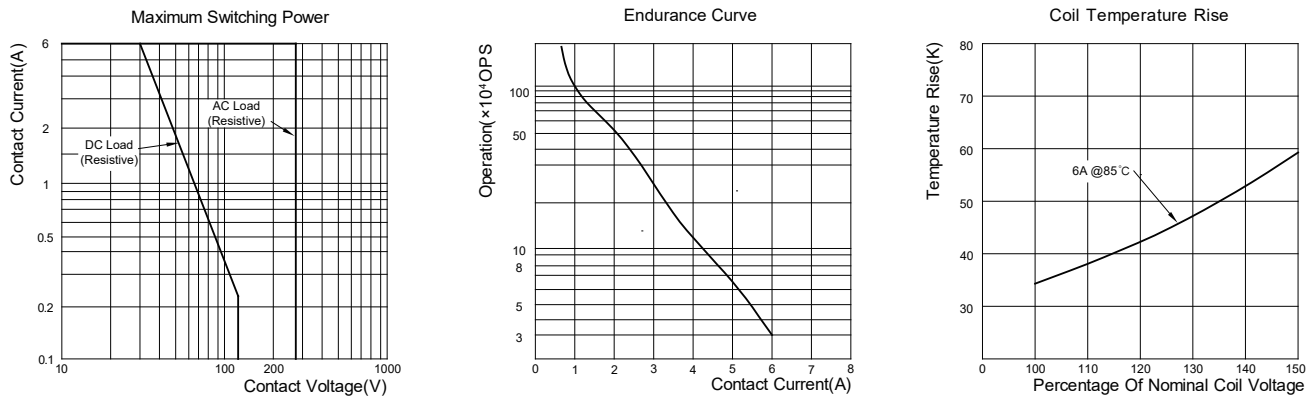
Tel: 13650051936

Website : www.edamcn.com

Email: leo@edamcn.com

RELAYS

CHARACTERISTIC CURVES



APPLICATION GUIDELINES

Automatic Wave Soldering

- * Wave solder is the optimum method for soldering.
- * Adjust the level of solder so that it does not overflow onto the top of the PC board.
- * Unless otherwise specified, solder under the following conditions depending on the type of relay.

Preheat time 20°C-100°C	Rising slope 20°C-120°C	Decreasing slope Peak-150°C	Soldering temperature 255°C-265°C
90±5 seconds	<3°C/s	<4°C/s	3~5s

Hand Soldering

- * Keep the tip of the soldering iron clean.

Solder Iron	30W or 60W
Iron Tip Temperature	Approx. 350°C 662°F
Solder Time	Within approx. 3 seconds

- * Immediate air cooling is recommended to prevent deterioration of the relay and surrounding parts due to soldering heat.
- * Although the sealed type relay can be cleaned, avoid immersing the relay into cold liquid (such as washing solvent) immediately after soldering. Doing so may deteriorate the sealing performance.

Discard the dropped product

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Tel:13650051936

RELAYS

Website : www.edamcn.com

Email: leo@edamcn.com