

HFE19-90

MINIATURE HIGH POWER LATCHING RELAY



Features

- 90A switching capability
- Latching relay
- According to IEC62055:UC3
(Contact:3000A; Bearable load: 6000Aload-current)
- 4kV dielectric strength (between coil and contact)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (38.0 x 30.0 x 16.5) mm

CONTACT DATA

Contact arrangement	1A, 1B
Contact resistance	2mΩ (at 1A 24VDC)
Contact material	AgSnO ₂
Contact rating (Res. load)	90A 250VAC
Max. switching voltage	250VAC
Max. switching current	90A
Max. switching power	22500VA
Mechanical endurance	1 x 10 ⁶ OPS Meter: 1 x 10 ⁵ OPS
Electrical endurance	1 x 10 ⁵ OPS Meter: 6000OPS

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1500VAC 1min
Creepage distance	8mm	
Operate time (at nomi. volt.)	20ms max.	
Release time (at nomi. volt.)	20ms max.	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	98% RH, 40°C	
Ambient temperature	-40°C to 70°C	
Termination	QC	
Unit weight	Approx. 50g	
Construction	Dust protected	

Notes: The data shown above are initial values.

COIL

Coil power	1 coil latching: 1.5W; 2 coils latching: 3.0W
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COIL DATA

at 23°C

1 coil latching

Pick-up Voltage VDC	Nominal Voltage VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω
5	3.5	100 min.	16
6	4.2		24
9	6.3		54
12	8.4		96
24	16.8		384
48	33.6		1536

2 coils latching

Pick-up Voltage VDC	Nominal Voltage VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω
5	3.5	100 min.	8+8
6	4.2		12+12
9	6.3		27+27
12	8.4		48+48
24	16.8		192+192
48	33.6		768+768



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2010 Rev. 1.10

ORDERING INFORMATION

Type	HFE19 -90/ 12 -H T -1 1 -R (XXX)						
Contact rating	90: 90A						
Coil voltage	5, 6, 9, 12, 24, 48VDC						
Contact form ¹⁾	H: 1 Form A D: 1 Form B						
Contact material	T: AgSnO ₂						
Coil angle form	1: Distance 2.5mm; No bowleg. 2: Distance 5mm; No bowleg. 3: Distance 2.5mm; L-bowleg. 4: Distance 5mm; L-bowleg.						
Sort	1: 1 coil latching			2: 2 coils latching			
Polarity	R: Negative polarity			Nil: Positive polarity			
Customer special code	We can make special design according to customer's requirement. Please see the typical design.						

Notes: 1) H means that relay is on the "reset" status when delivery; D means that relay is on the "set" status when delivery.

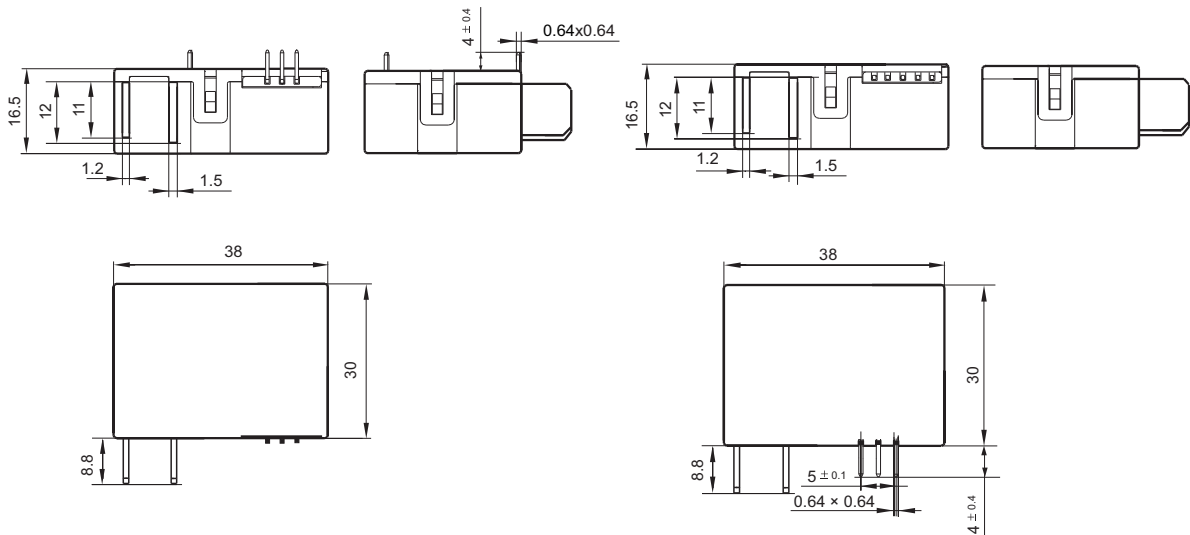
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

L-bowleg

No bowleg

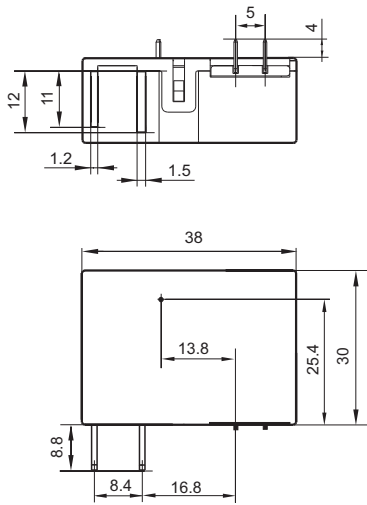


- Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
2) The tolerance without indicating for PCB layout is always ± 0.1 mm.

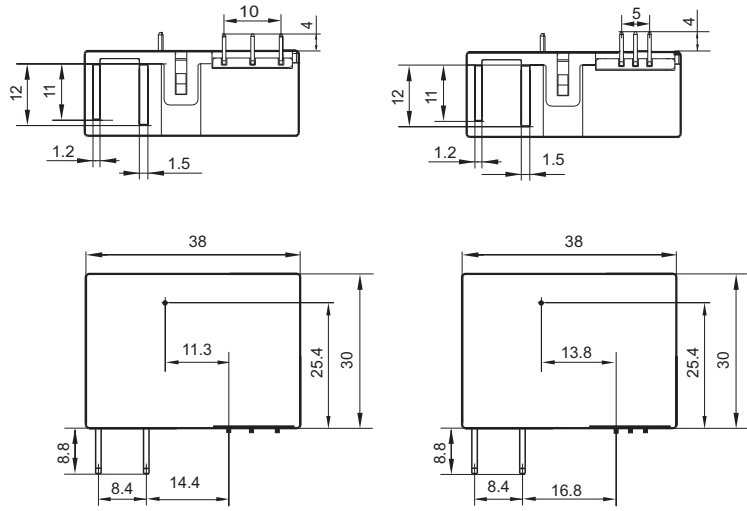
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

1 coil latching

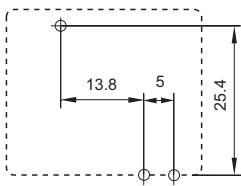


2 coils latching

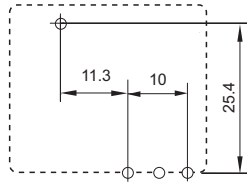


PCB Layout (Bottom view)

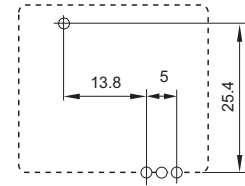
1 coil latching



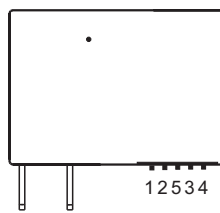
2 coils latching



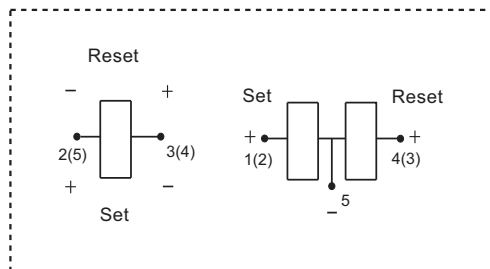
2 coils latching



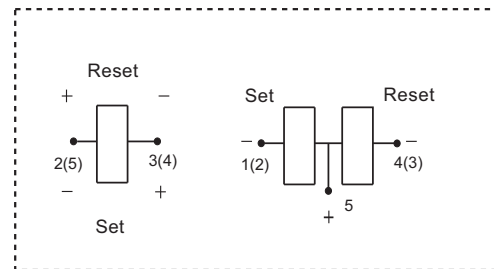
Wiring Diagram (Bottom view)



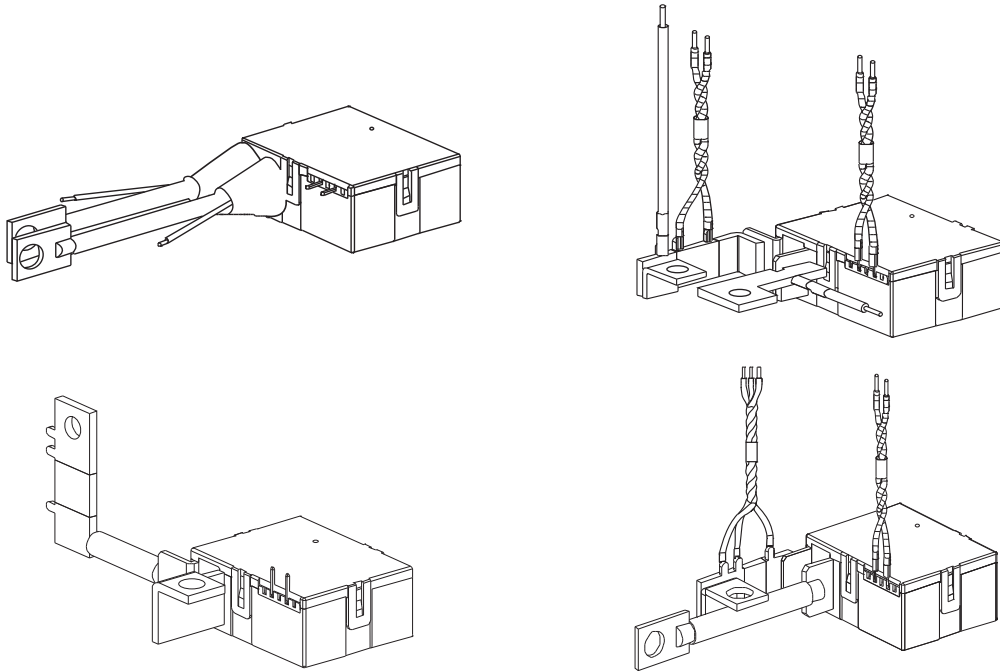
Positive polarity



Negative polarity



Typical Design



Notes: The drawing shown above are typical design, we can make special design according to customer's requirement. Please provide us with the drawing.

Notice

1. Relay is on the "reset" or "set" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to "set" or "reset" status, therefore, when application (connecting the power supply), please reset the relay to "set" or "reset" status on request.
2. In order to maintain "set" or "reset" status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than "set" or "reset" time. Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. In order to avoid changing operate voltage, products should not be kept in strong magnetic field during transportation, storage and application.

Disclaimer

This datasheet is for the customers' reference. All the specifications are subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

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