FH30L-90 Latching Relay

Features

- 90A contact switching capability
- Electrical endurance capability: breaking under 2000A for 0.3ms for 300 times
- We can provide the contact gap is > 1.5mm
- Contact on and off can be controlled by manual control switch
- UL insulation system:Class F
- Outline Dimensions:FH30L-90：(39.0×15.0×30.2)mm
  FH30LD-90：(39.0×21.4×30.2)mm
- Main application:charging pile,Smart home,Lighting control

■ CHARACTERISTICS

Specifications	Item		FH30L-90	FH30LD-90
Contact Data	Contact arrangement		1A、1B	
	Contact resistance(initial)		≤2mΩ(90A)	
	Contact material		$AgSnO_2$	
Rated value	Rated load(Resistance load)		90A 277VAC	90A 60VDC
	Max.switching voltage		440VAC	60VDC
	Max.switching current		90A	
	Max.switching capacity		22500VA	5400W
Electrical performance	Insulation resistance(initial)		1000MΩ(500VDC)	
	Dielectric strength (initial)	Between open contacts	2000VAC 1min	
		Between coil&contacts	4000VAC 1min	
	Closing time		≤15ms	
	Opening time		≤15ms	
Mechanical performance	Shock resistance	Functional	$98m/s^2$(10g)	
		Destructive	$980m/s^2$(100g)	
	Vibration resistance		10Hz~55Hz 1.5mm DA	
Endurance	Mechanical		$5×10^5$ops	
	Electrical	ON/OFF=1S/9S	90A 250VAC $6×10^3$ops(COS ϕ =1)	90A 60VDC $1×10^4$ops
Operate condition	Ambient temperature		-40℃~85℃	
	Humidity		5%~85%RH	
Termination			PCB type	
Unit weight			Approx.35g	
Construction			Plastic sealed,Flux proofed	

■ COIL DATA(23℃)

■Standard Single Coil

Nominal Voltage	Closing Voltage VDC	Opening Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 6V	≤4.50	≤4.50	0.5A	12Ω	3.0 W	DC 9V
DC 9V	≤6.75	≤6.75	0.33A	27Ω		DC 13.5V
DC 12V	≤9.00	≤9.00	0.25A	48Ω		DC 18V
DC 24V	≤18.00	≤18.00	0.13A	192Ω		DC 36V

■Standard double coils

Nominal Voltage	Closing Voltage VDC	Opening Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 6V	≤4.50	≤4.50	1.0/1.0A	6/6Ω	6.0W	DC 9V
DC 9V	≤6.75	≤6.75	0.67/0.67A	13.5/13.5Ω		DC 13.5V
DC 12V	≤9.00	≤9.00	0.5/0.5A	24/24Ω		DC 18V
DC 24V	≤18.00	≤18.00	0.25/0.25A	96/96Ω		DC 36V

■Sensitive single coil

Nominal Voltage	Closing Voltage VDC	Opening Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 6V	≤4.50	≤4.50	0.25A	24Ω	1.5W	DC 9V
DC 9V	≤6.75	≤6.75	0.17A	54Ω		DC 13.5V
DC 12V	≤9.00	≤9.00	0.125A	96Ω		DC 18V
DC 24V	≤18.00	≤18.00	0.06A	384Ω		DC 36V

■Sensitive double coils

Nominal Voltage	Closing Voltage VDC	Opening Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 6V	≤4.50	≤4.50	0.5/0.5A	12/12Ω	3.0W	DC 9V
DC 9V	≤6.75	≤6.75	0.33/0.33A	27/27Ω		DC 13.5V
DC 12V	≤9.00	≤9.00	0.25/0.25A	48/48Ω		DC 18V
DC 24V	≤18.00	≤18.00	0.125/0.125A	192/192Ω		DC 36V

■ ORDERING INFORMATION

FH30L-90	-1B	S	T	L	M	-L1	R	-XXX	DC6V

① ① Type：FH30L-90=AC Load、
FH30LD-90=DC Load

② Contact arrangement:1A=1 open contacts
1B=1 close contacts

③ Construction(1):Nil=Flux proofed
S=Plastic sealed(No hand control switch)

④ Contact material:T=$AgSnO_2$

⑤ Coil power consumption: None = standard type,
L= sensitive type

⑥ Control type:Nil=No hand control switch
M=Within Manual Switch(Only flux proofed)

⑦ Coil type:L1=1 coil latching 、L2=2 coils latching

⑧ Polarity:Nil=standard polarity R=reversed polarity

⑨ Customer special code:numbers or letters denote customer's requirements

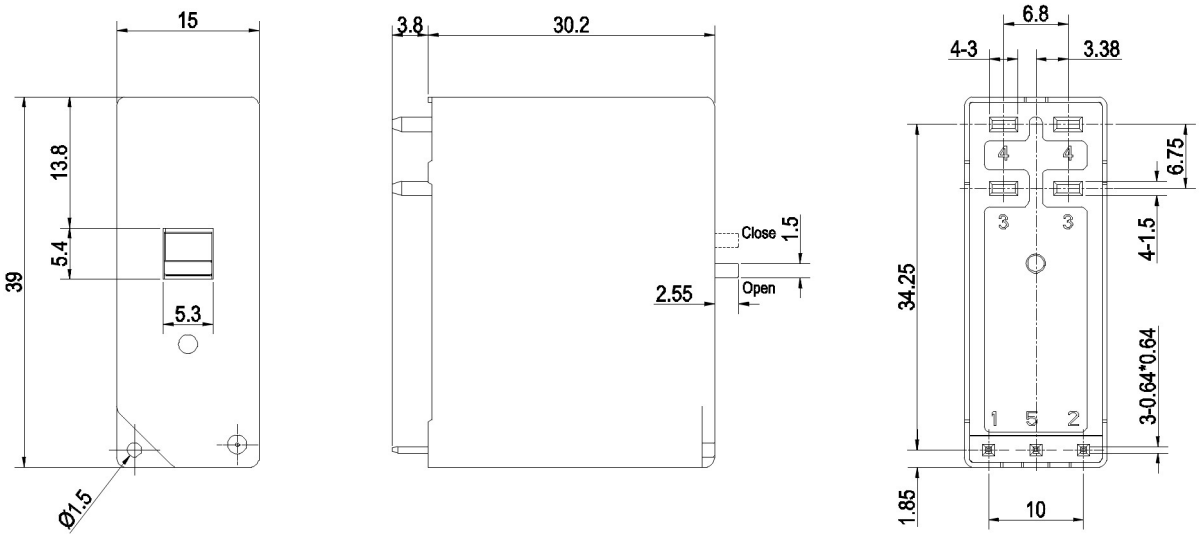
⑩ Coil specification:DC6/9/12/24V

(1) When used in clean environment(excluding H_2S,SO_2,NO_2,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H_2S,SO_2,NO_2,dust and other pollutants), it is recommended to choose the Plastic sealed.

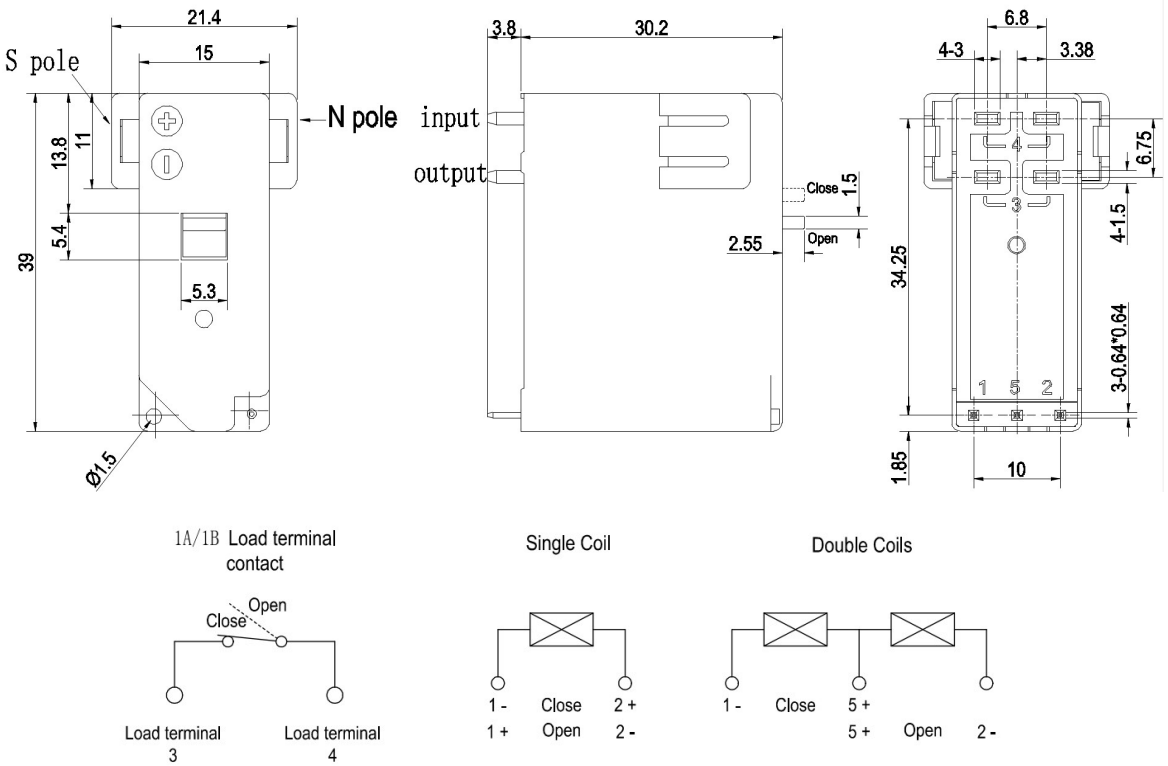
■ WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

Outline Dimensions、Standard polarity wiring diagram

FH30L-90



FH30LD-90



Remark:(1)In case of no tolerance shown in outline dimension:outline dimension≤1mm,tolerance should be±0.2mm;outline dimension >1mm and <5mm,tolerance should be ±0.3mm;outline dimension≥5mm,tolerance should be ±0.5mm.

(2) The tolerance without indicating for PCB layout is always ±0.1mm.

■ NOTICE

① For the state of latching relay as delivered,If the customer has no special requirements, we default to the closed state before delivery,but due to transportation or relay installation by shock and other factors may change the state,so please reset it to the closed or open state as needed when using;

② In order to maintain the initial performance parameters of the relay, please be careful not to drop the product or be affected by external force;

③ In order to maintain "opening" or "closing" status,energized voltage applied across the coil should reach the rated voltage,it is recommended that the actual driving voltage be 1~1.5 times the rated voltage, Pulse width ≥50ms,and do not energize to "opening" coil and "closing" coil simultaneously,long energized time(more than 1 min) should also be avoided;

④ The soldering temperature of load extraction terminal with copper is 260℃±5℃,soldering time is 10S±1S

⑤ Latching relays are customized products,the above cases are only for reference. If you have any questions, please contact Fanhar for more technical support;

⑥ The specification is for reference only.Specifications subject to change without notice.