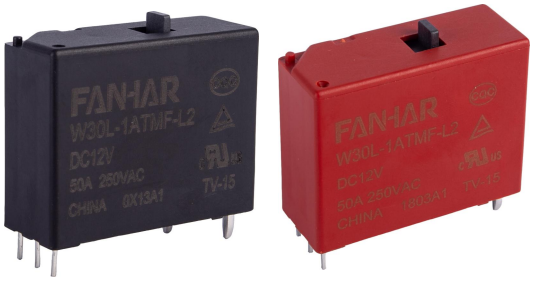
# W30L Latching Relay

## Features

- 50A contact switching capability
- We can provide the contact gap is ≥ 1.5mm
- Contact arrangement:1A、1B、1C
- Surge voltage(1.2/50μs):between contact and coil 12KV
- Contact on and off can be controlled by manual control switch
- UL insulation system:Class F
- Environmental friendly product(RoHS compliant)
- Outline Dimensions:(39.0×15×30.2)mm
- Main application:Smart home,Lighting control




TV-15

## ■ CHARACTERISTICS

| Specifications | Item | | | |
|---|---|---|---|---|
| Contact Data | Contact arrangement | | 1A、1B | 1C |
| | Contact resistance(initial) | | ≤20mΩ(6VDC 1A) | |
| | Contact material | | $AgSnO_2$ | |
| Rated value | Rated load(Resistance load) | | 50A 250VAC | 40A 250VAC |
| | Max.switching voltage | | 440VAC | 440VAC |
| | Max.switching current | | 50A | 40A |
| | Max.switching capacity | | 12500VA | 10000VA |
| Electrical performance | Insulation resistance(initial) | | 1000MΩ(500VDC) | |
| | Dielectric strength (initial) | Between open contacts | 2000VAC,1min | 1500VAC,1min |
| | | Between coil&contacts | 4000VAC 1min | |
| | Closing time | | ≤20ms | |
| | Opening time | | ≤20ms | |
| Surge Voltage (1.2/50μs) | Between coil&contacts | | 12KV | |
| Mechanical performance | Shock resistance | Functional | 98m/s$^2$(10g) | |
| | | Destructive | 980m/s$^2$(100g) | |
| | Vibration resistance | | 10Hz~55Hz 1.5mm DA | |
| Endurance | Mechanical | | 1×10$^6$ops | |
| | Electrical | ON/OFF=1S/9S | 50A 250VAC | 5×10$^4$ops(COS $\phi$ =1) |
| | Electrical | ON/OFF=3S/3S | 40A 250VAC | 3×10$^4$ops(COS $\phi$ =1) |
| Operate condition | Ambient temperature | | -40℃~85℃ | |
| | Humidity | | 5%~85%RH | |
| Termination | | | PCB type | |
| Unit weight | | | Approx.31g | |
| Construction | | | Plastic sealed,Flux proofed | |

## ■ COIL DATA(23℃)

■ Single coil latching

| Nominal Voltage | Closing Voltage VDC | Opening Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|---|---|---|---|---|---|---|
| DC 6V | ≤4.50 | ≤4.50 | 0.17A | 36Ω | 1.0 W | DC 9V |
| DC 9V | ≤6.75 | ≤6.75 | 0.11A | 81Ω | | DC 13.5V |
| DC 12V | ≤9.00 | ≤9.00 | 0.08A | 144Ω | | DC 18V |
| DC 24V | ≤18.00 | ≤18.00 | 0.04A | 576Ω | | DC 36V |

■ Double coils latching

| Nominal Voltage | Closing Voltage VDC | Opening Voltage VDC | Rated Current (±10%) | Coil Resistance (±10%) | Nominal Power | Max Voltage |
|---|---|---|---|---|---|---|
| DC 6V | ≤4.50 | ≤4.50 | 0.33/0.33A | 18/18Ω | 2.0W | DC 9V |
| DC 9V | ≤6.75 | ≤6.75 | 0.22/0.22A | 40.5/40.5Ω | | DC 13.5V |
| DC 12V | ≤9.00 | ≤9.00 | 0.17/0.17A | 72/72Ω | | DC 18V |
| DC 24V | ≤18.00 | ≤18.00 | 0.083/0.083A | 288/288Ω | | DC 36V |

## ■ ORDERING INFORMATION

**W30L -1B S T M F -L1 R -XXX DC6V**

① Type

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

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

④ Contact material:T=$AgSnO_2$

⑤ Control type:Nil=No hand control switch
M=Within Manual Switch(Only flux proofed)

⑥ Insulation standard:Nil=Blank F=Class F

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.

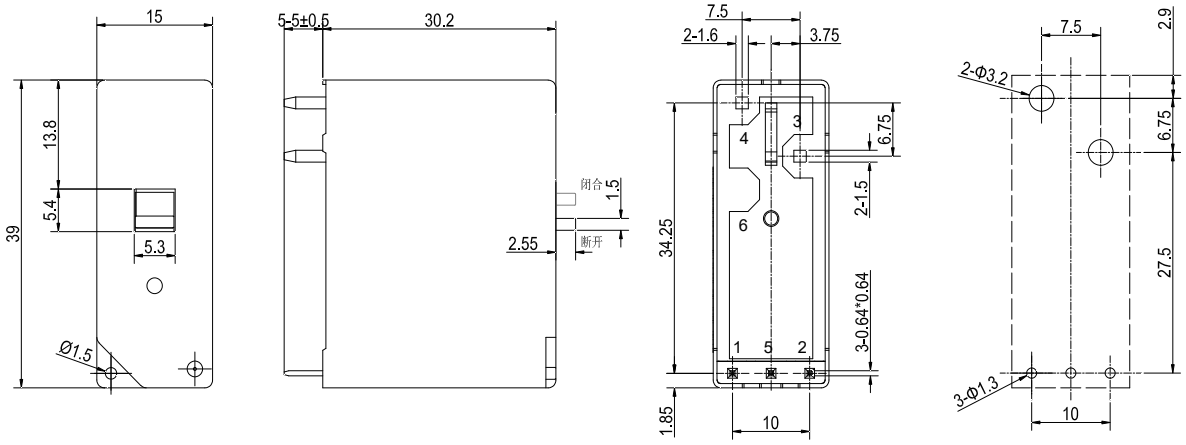
## ■ WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

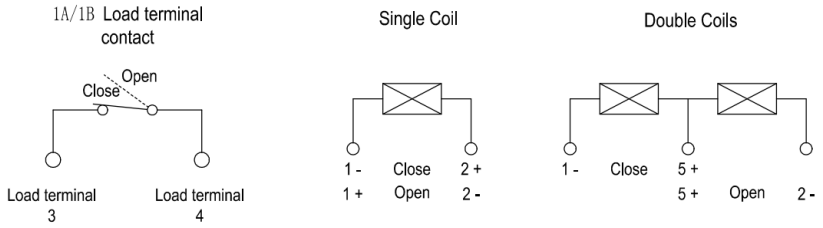
Outline Dimensions、Standard polarity wiring diagram

1A/1B(Basic type)

Outline Dimensions

PCB Layout
(Bottom view)

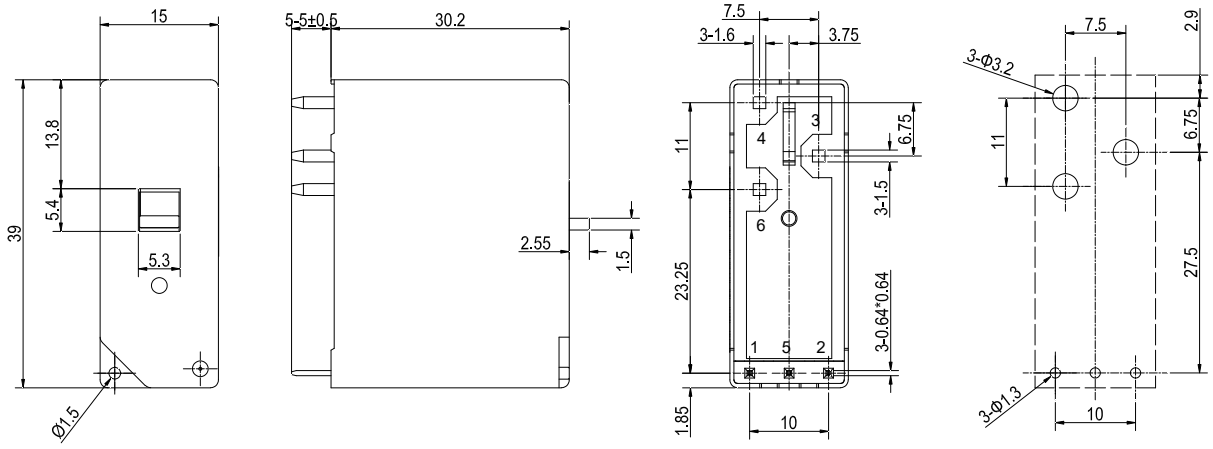


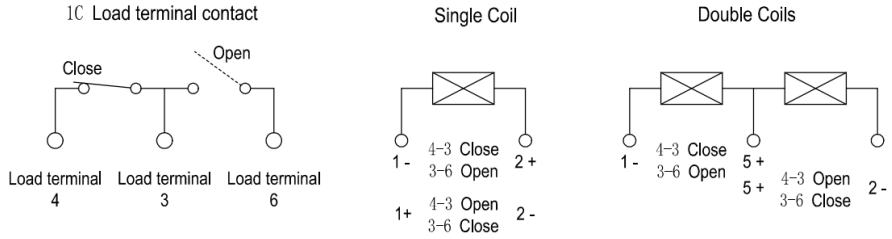




1C(switched type)

Outline Dimensions

PCB Layout
(Bottom view)




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.