# FH74L

## Latching Relay

### Features

- 80A switching capability
- Single coil and double coils are available
- External accessories such as manganese copper shunts and transformers can be ordered according to customer requirements
- Breakdown voltage (between contact and coil):4KV
- Meet standard of IEC62052-31：2005 UC2
- Optional auxiliary contact available, with synchronous/ asynchronous state selectable relative to load-side contact
- Environment-friendly product(RoHS compliant)
- Outline Dimensions: (97.5*36*18.8)mm
- Can be integrated design, convenient automatic installation and PR production
- Power frequency interference resistance, and good consistency
- Main application: smart meter


## CHARACTERISTICS

| Specifications | Item | | | | |
|---|---|---|---|---|---|
| Contact Data | Contact arrangement | | 3A、3B | | |
| | Contact resistance(initial) | | ≤1.0mΩ(6VDC 1A) | | |
| | Contact material | | $AgSnO_2$ | | |
| Rated value | Rated load(Resistance load) | | 80A 250VAC | | |
| | Max.switching voltage | | 276VAC | | |
| | Max.switching current | | 100A | | |
| | Max.switching capacity | | 27600VA | | |
| Electrical performance | Insulation resistance(initial) | | 1000MΩ(500VDC) | | |
| | Dielectric strength (Initial) | Between open contacts | 2000VAC 1min | | |
| | | Between coil&contacts | 4000VAC 1min | | |
| | Closing time | | ≤30ms | | |
| | Opening time | | ≤30ms | | |
| Mechanical performance | Shock resistance | Functional | $98m/s^2$(10g) | | |
| | | Destructive | $980m/s^2$(100g) | | |
| | Vibration resistance | | 10Hz~55Hz 1.5mm DA | | |
| Endurance | Mechanical | | $3\times10^5$ops | | |
| | Electrical | ON/OFF=1S/9S | 80A 250VAC | | $1\times10^4$ops(COS $\phi$ =1) |
| | Electrical UC2(1) | ON/OFF=10S/20S | 80A 230VAC | 5000ops(COS $\phi$ =1) | Total 10000ops |
| | | | | 5000ops 次(COS $\phi$ =0.5) | |
| Operate condition | Ambient temperature | | -40℃~85℃ | | |
| | Humidity | | 5%~85%RH | | |
| Termination | | | Plug-in needle type+Screw type(XB) | | |
| Unit weight | | | Approx.270g (Without attachment) | | |
| Construction | | | Flux proofed | | |

Note: (1) Electrical endurance meet IEC62055-31 test requirements,do the inductive load test after the resistive load test.

## ■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 | 0.83A | 7.2Ω | 5W | DC 9V |
| DC 9V | ≤6.75 | ≤6.75 | 0.56A | 16.2Ω | | DC 13.5V |
| DC 12V | ≤9.00 | ≤9.00 | 0.42A | 28.8Ω | | DC 18V |
| DC 24V | ≤18.00 | ≤18.00 | 0.21A | 115.2Ω | | 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 | 1.67/1.67A | 3.6/3.6Ω | 10W | DC 9V |
| DC 9V | ≤6.75 | ≤6.75 | 1.1/1.1A | 8.1/8.1Ω | | DC 13.5V |
| DC 12V | ≤9.00 | ≤9.00 | 0.83/0.83A | 14.4/14.4Ω | | DC 18V |
| DC 24V | ≤18.00 | ≤18.00 | 0.42/0.42A | 57.6/57.6Ω | | DC 36V |

## ■ORDERING INFORMATION

**FH74L 3B 1 T -L1 R -XXX -DC6V**

① Type

② Contact arrangement:3A=3 open contacts
3B=3 close contacts

③ PCB mounting:1=Standard、
7=Customized Accessories

④ Contact material:T=$AgSnO_2$

⑤ Coil type:L1=Single coil latching、L2=Double coils latching

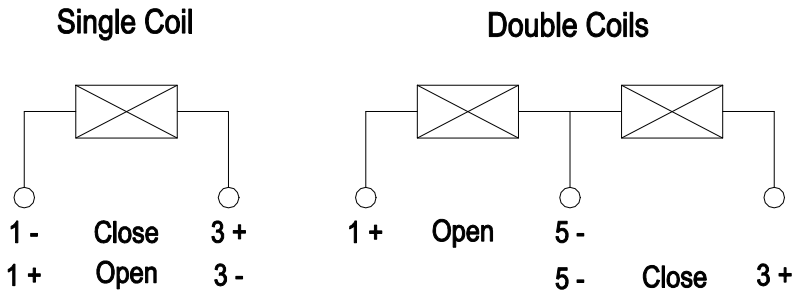
⑥ Polarity:Nil=standard polarity R=reversed polarity

⑦ Customer special code:numbers or letters denote customer's requirements

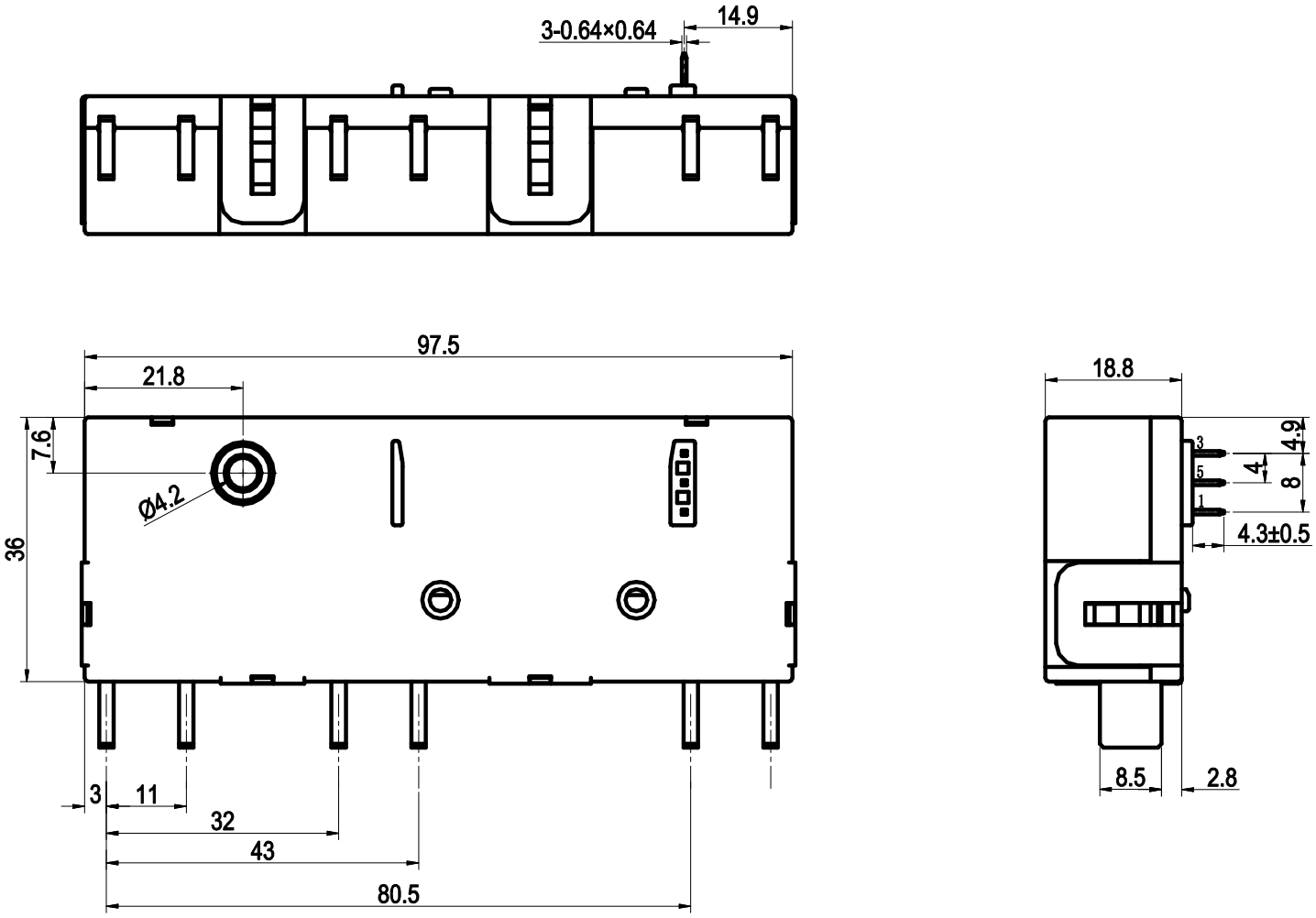
⑧ Coil specification:DC6/9/12/24V

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

Standard polarity wiring diagram




Standard shape drawing




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 ≥100ms,and do not energize to "opening" coil and "closing" coil simultaneously,long energized time(more than 1 min) should also be avoided;

④ Normally the load terminals are not suitable for reflow solder, wave solder or tin solder, we suggest use spot welding. Load terminals shall be prevented from assembly stress;

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 referenc e only.Specifications subject to change without notice.