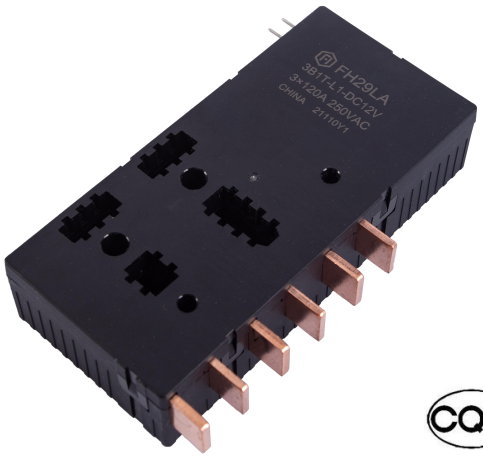
FH29LA

Latching Relay

Features

- 120A 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 UC3
- Environment-friendly product(RoHS compliant)
- Outline Dimensions:(110×52×24)mm
- Can be integrated design, convenient automatic installation and 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)		120A 250VAC		
	Max.switching voltage		277VAC		
	Max.switching current		120A		
	Max.switching capacity		30000VA		
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		$1×10^5$ops		
	Electrical	ON/OFF=1S/9S	120A 250VAC		$1.5×10^4$ops(COS ϕ =1)
	Electrical UC3(1)	ON/OFF=10S/20S	120A 250VAC	5000ops(COS ϕ =1)	Total 10000ops
				5000ops(COS ϕ =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

FH29LA 3B 1 T -L1 R -AC R -XXX -DC6V

①Type：

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

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

④Contact material:T=$AgSnO_2$

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

⑥Polarity:Nil=standard polarity R=reversed polarity

⑦Pin status:none=No auxiliary contact、AC=with auxiliary contact

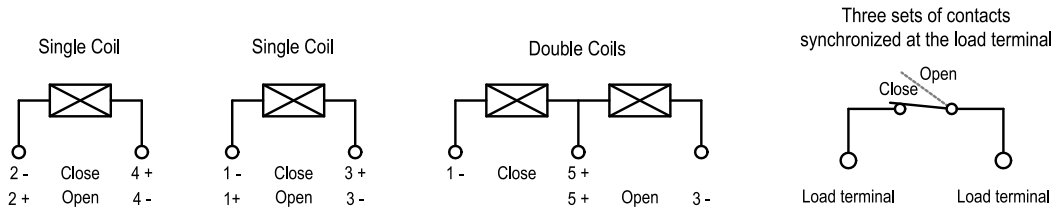
⑧Switch status:none=Close/open with the main contact synchronously、R= Opposite to main contact（for example: main contact closed, auxiliary contact open)

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

⑩Coil specification:DC6/9/12/24V

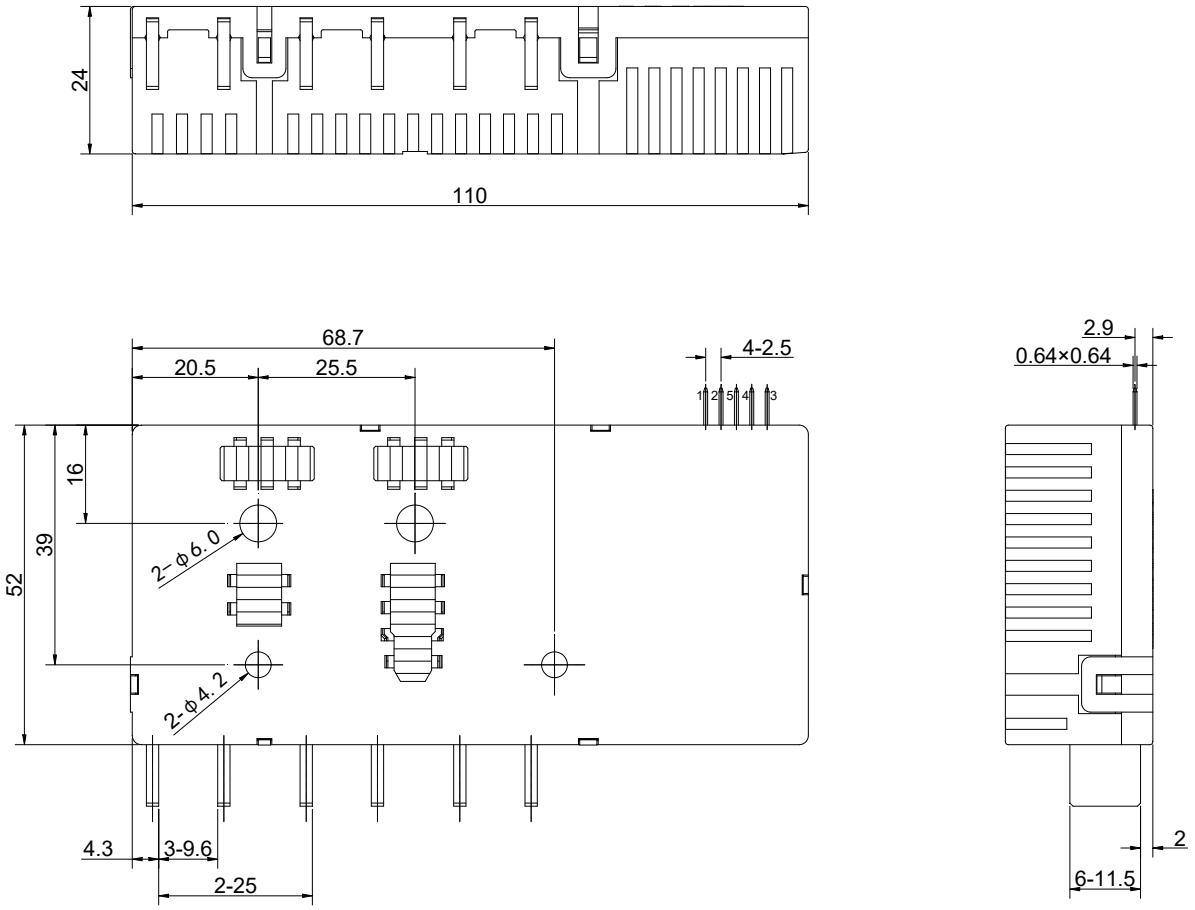
■ WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

Standard polarity wiring diagram



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

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.

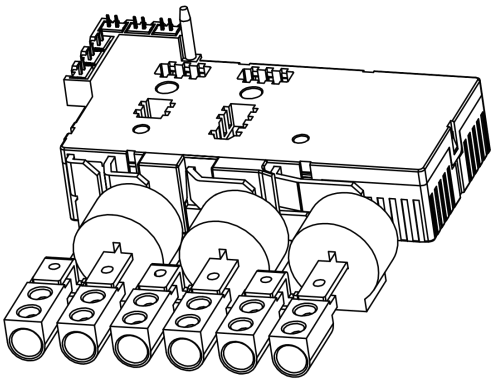
(2) The tolerance without indicating for PCB layout is always ±0.1mm.

■ SAFETY APPROVAL RATINGS

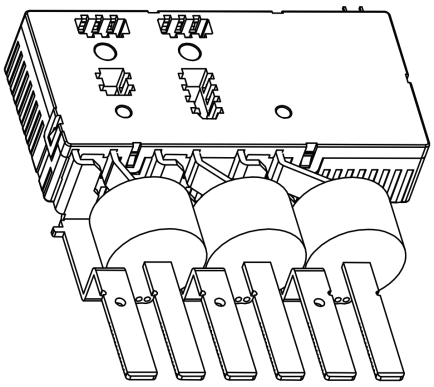
Approval	File No.	Type	Approved ratings			
CQC	CQC22002367296	Main contact	120A/100A	277VAC/250VAC	Resistive 85℃	6×10^3ops
		Auxiliary contact	10mA	12VDC	Resistive 85℃	1×10^4ops

■ TYPICAL CASES

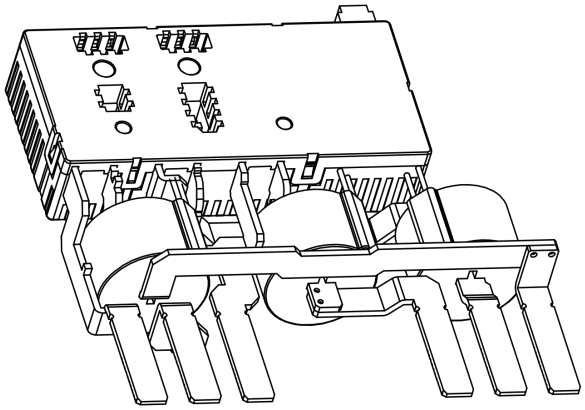
All-in-one solution



one inlet and two outlets



Symmetrical solutions



■ 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 reference only.Specifications subject to change without notice.