FH61NE

Power Relay

Features

- 2 sets of 40A main contact+1 set of auxiliary contact
- When the main contact sticks,Auxiliary contacts meet the safety monitoring function (According to IEC61810-3)
- Contact gap :3.6mm(main contact)　1.0mm(auxiliary contact) Auxiliary contact:Min0.5mm(When the main contact sticks)
- Coil power is:1.88W
- UL insulation system:Class F
- Outline Dimensions:(37.2x30x40)mm
- Main applications: Inverter for solar photovoltaic power generation, AC charge spots
- The coil voltage applied to complete machine to save power loss

■ CHARACTERISTICS

Specifications	Item		Common design	With auxiliary contact
Contact Data	Contact arrangement		2A	2A+1A 、2A+1B
	Contact resistance(initial)	Main contact	≤10mΩ(6VDC 20A)	
		Auxiliary contact	/	≤100mΩ(6VDC 1A)
	Contact material	Main contact	$AgSnO_2$	
		Auxiliary contact	/	AgNi
Rated value	Rated load (Resistance load)	Main contact	40A　277VAC	
		Auxiliary contact	/	1A　277VAC，1A　30VDC
	Max.switching voltage	Main contact	480VAC	
		Auxiliary contact	/	277VAC,30VDC
	Max.switching current	Main contact	40A	
		Auxiliary contact	/	1A
	Max.switching capacity	Main contact	11080VA	
		Auxiliary contact	/	277VA/30W
Electrical performance	Insulation resistance(initial)		1000MΩ(500VDC)	
	Dielectric strength (Initial)	Disconnect between main contacts	2000VAC　1min(50Hz/60Hz)	
		Between main contact and auxiliary contact		
		Between coil and auxiliary contact		
		Between main contact groups	5000VAC　1min(50Hz/60Hz)	
		Between the coil and the main contact		
		Disconnect between auxiliary contacts	/	1000VAC　1min(50Hz/60Hz)
	Operate time		≤30ms	
	Release time		≤10ms	

■ CHARACTERISTICS

Specifications	Item		Common design	With auxiliary contact
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^{6}ops	
	Electrical (main contact)	ON/OFF=1S/9S	40A 277VAC Resistive 85°C 5×10^4 ops 80A 277VAC Resistive 85°C 6×10^3 ops 15A 480VAC Resistive 85°C 5×10^4 ops	
	Electrical (auxiliary contact)		/	1A 30VDC Resistive 85℃ 1×10^{5}ops 1A 277VAC Resistive 85℃ 1×10^{5}ops
Operate condition	Ambient temperature		-40℃~+85℃	
	Humidity		5%~85%RH	
Surge voltage (Between coil&contacts)			10kV(1.2/50 μs)	
Unit weight			Approx.72g	
Construction			Flux proofed	

Note:The above datas are the initial values

■ COIL DATA(23℃)

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current (±10%)A	Coil Resistance (±10%)Ω	Nominal Power	Sustaining voltage	Max Voltage VDC
DC 6V	≤4.5	≥0.3	0.31	19.1	1.88W	40%-100%Un (Ambient temperature25℃) 50%-60%Un (Ambient temperature85℃)	6.6
DC 9V	≤6.75	≥0.45	0.209	43.1			9.9
DC 12V	≤9	≥0.6	0.157	76.6			13.2
DC 24V	≤18	≥1.2	0.078	306.4			26.4
DC 48V	≤36	≥2.4	0.039	1225.5			52.8

Remark:(1)The coil sustaining voltage applied to coil 100ms after the rated voltage.

(2)To avoid overheating and buring,the coil can not be consistently applied to with voltage larger than maximum sustaining voltage.

■ ORDERING INFORMATION

FH61NE 2A T A -XXX -DC12V

① Type

② Contact arrangement:2A=2 open contacts

③ Contact material:T=$AgSnO_2$

④ Auxiliary switch: None = no auxiliary switch、
A= auxiliary switch normally open、
B= auxiliary switch normally closed

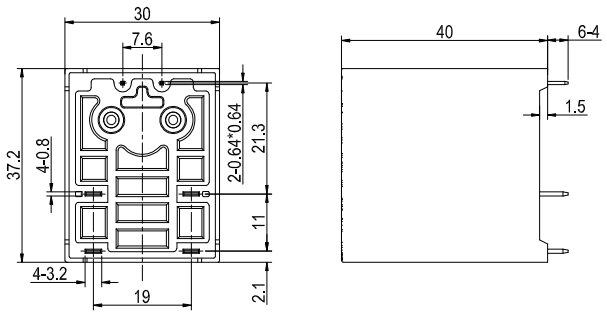
⑤ Customer special code:numbers or letters denote customer's requirements

⑥ Coil specification:DC6/9/12/24/48V

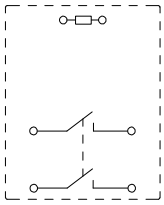
■ WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

without auxiliary switch

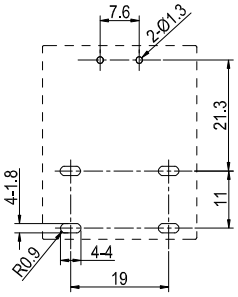
Outline Dimensions



Wiring Diagram (Bottom view)

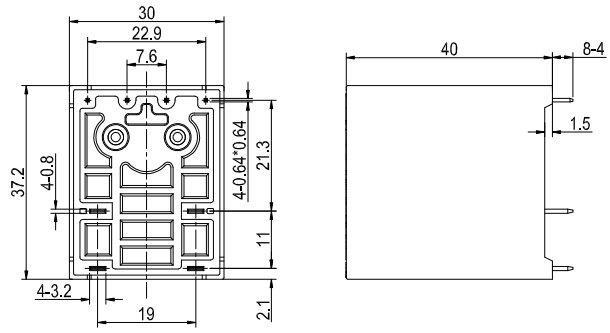


PCB Layout (Bottom view)

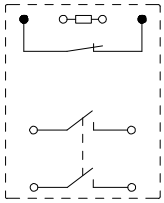


Auxiliary switch normally closed

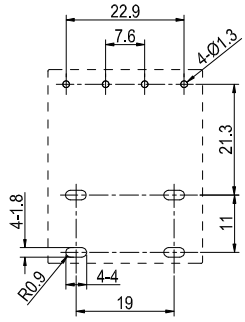
Outline Dimensions



Wiring Diagram (Bottom view)

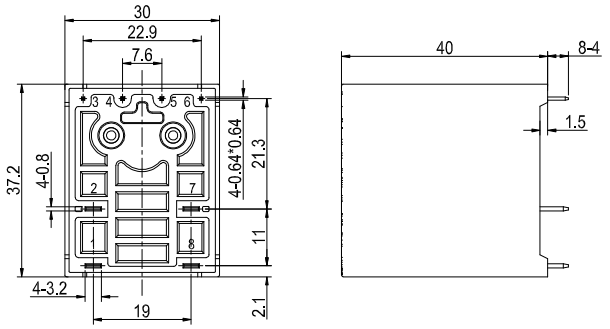


PCB Layout (Bottom view)

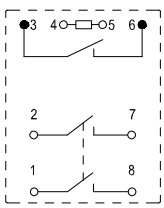


Auxiliary switch normally open

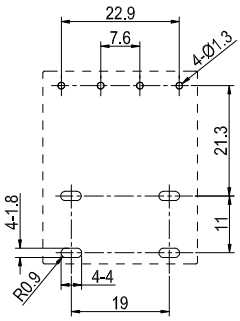
Outline Dimensions



Wiring Diagram (Bottom view)



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.

■ SAFETY APPROVAL RATINGS

Approval	File No.	Type	Approved ratings
UL/C-UL	E475405	Main contact	40A/35A 277VAC/415VAC Resistive 85℃ 5×10^4ops
			80A 277VAC/415VAC(contacts in parallel) Resistive 85℃ 6×10^3 ops
			20/15A 480VAC Resistive 85℃ 5×10^4 ops
			TV-10 277VAC 85℃ 2.5×10^4ops
		Auxiliary contact	1A 30VDC Resistive 85℃ 1×10^5ops
			1A 277VAC/250VAC Resistive 85℃ 1×10^5ops
TUV	R 50595927	Main contact	40A/35A 277VAC/415VAC Resistive 85℃ 5×10^4 ops
			80A 277VAC/415VAC(contacts in parallel) Resistive 85℃ 6×10^3 ops
			20/15A 480VAC Resistive 85℃ 5×10^4 ops
		Auxiliary contact	1A 30VDC Resistive 85℃ 1×10^5ops
			1A 277VAC/250VAC Resistive 85℃ 1×10^5ops
CQC	CQC23002403073	Main contact	40A/35A 277VAC/415VAC Resistive 85℃ 5×10^4ops
			80A 277VAC/415VAC(contacts in parallel) Resistive 85℃ 6×10^3ops
			20/15A 480VAC Resistive 85℃ 5×10^4ops
		Auxiliary contact	1A 30VDC Resistive 85℃ 1×10^5ops
			1A 277VAC/250VAC Resistive 85℃ 1×10^5ops

■ NOTICE

① 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;

② The soldering temperature of load extraction terminal with copper is 260℃±5℃,soldering time is 3~5S;

③ The specification is for reference only.Specifications subject to change without notice.