FH12TP Power Relay

Features

- 40A switching capability
- Breakdown voltage (between coil and contacts): 2.5KV
- The same side (H2) and the opposite side (H1) of the quick connect terminal can be selected
- Plastic sealed and Flux proofed are optional
- UL insulation system:Class F
- Outline Dimensions: Low Type32.0*27.0*18.9)mm
  High Type(32.0*27.0*28.0)mm
- Main applications: Industrial control, Water heater

S2

H2

TV-10

■ CHARACTERISTICS

Specifications	Item		
Contact Data	Contact arrangement		1A、1B、1C
	Contact resistance(initial)		≤100mΩ(6VDC 1A)
	Contact material		AgNi、$AgSnO_2$
Rated value	Rated load(Resistance load)		NO:30A 250VAC(Standard)) 40A 250VAC NC:20A 250VAC
	Max.switching voltage		277VAC
	Max.switching current		40A
	Max.switching capacity		7500VA
	Min.allowing load		5VDC 100mA
Electrical performance	Insulation resistance(initial)		1000MΩ(500VDC)
	Dielectric strength (initial)	Between open contacts	1500VAC,1min
		Between coil&contacts	2500VAC,1min
	Operate time		≤15ms
	Release time		≤10ms
Mechanical performance	Shock resistance	Functional	98m/s^2(10G)
		Destructive	980m/s^2(100G)
	Vibration resistance		10Hz~55Hz1.5mm DA
Endurance	Mechanical		1×10^6ops
	Electrical(Room temperature)		30A 250VAC 5×10^4ops(ON/OFF=1s/9s) 40A 250VAC 2×10^4ops(ON/OFF=1s/9s)
Operate condition	Ambient temperature		-40℃~85℃
	Humidity		5% to 90%
Termination			PCB
Unit weight			Approx.36g
Construction			Plastic sealed,Flux proofed

■ COIL DATA(23℃)

Nominal Voltage	Operate Voltage VDC	Release Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 5V	≤3.75	≥0.25	180mA	27.8Ω	900 mW	DC 6.5V
DC 6V	≤4.50	≥0.30	150mA	40Ω		DC 7.8V
DC 9V	≤6.75	≥0.45	100mA	90Ω		DC 11.7V
DC 12V	≤9.00	≥0.60	75mA	160Ω		DC 15.6V
DC 15V	≤11.25	≥0.75	60mA	250Ω		DC 19.5V
DC 18V	≤13.50	≥0.90	50mA	360Ω		DC 23.4V
DC 24V	≤18.00	≥1.20	37.5mA	640Ω		DC 31.2V
DC 36V	≤27.00	≥1.80	25mA	1440Ω		DC 46.8V
DC 48V	≤36.00	≥2.40	18.75mA	2560Ω		DC 62.4V
DC 110V	≤82.50	≥5.50	8.19mA	13444.5Ω		DC 143V

■ ORDERING INFORMATION

FH12TP -1A S T F -XXX DC12V

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

④ Contact material (2):Nil=AgNi、T=$AgSnO_2$

⑤ Insulation standard:F=Class F

⑥ Customer special code:Numbers or letters denote customer's requirements
(For example:H2 means the high type with same side)

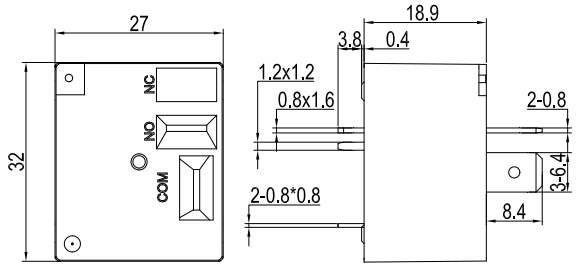
⑦ Coil specification:DC5/6/9/12/15/18/24/36/48/110V

(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.

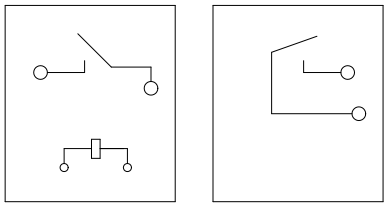
(2) Due to the high surge current of relay connection,we propose to use $AgSnO_2$ contacts.

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

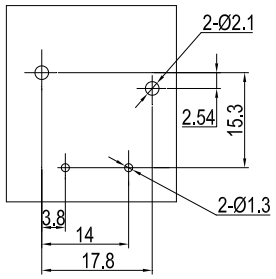
1A Outline Dimensions



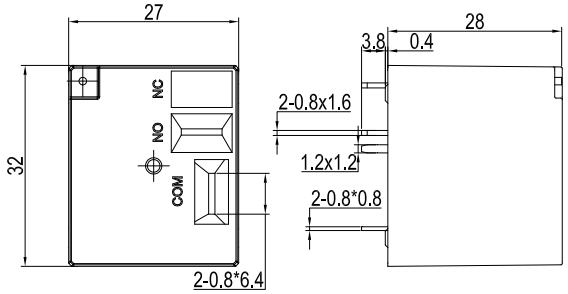
Wiring Diagram (Bottom view)



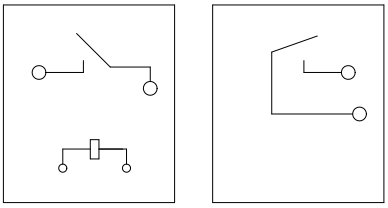
PCB Layout (Bottom view)



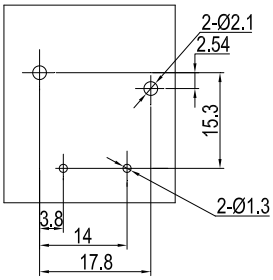
1A(H2) Outline Dimensions



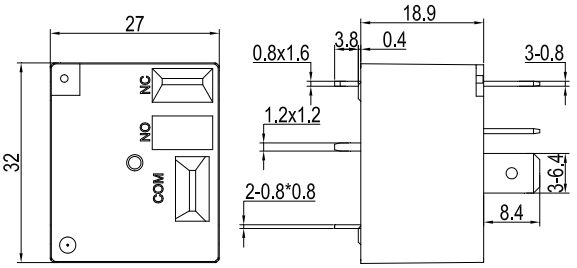
Wiring Diagram (Bottom view)



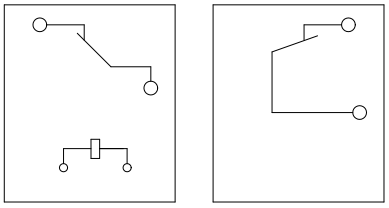
PCB Layout (Bottom view)



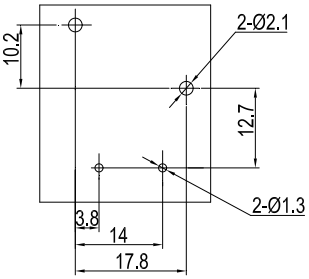
1B Outline Dimensions



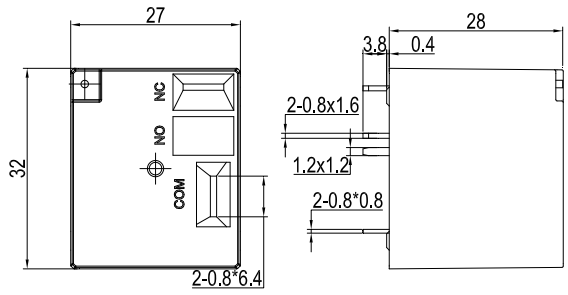
Wiring Diagram (Bottom view)



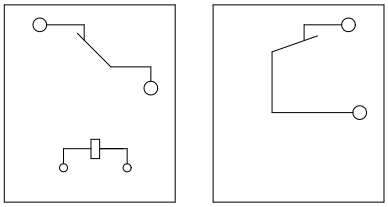
PCB Layout (Bottom view)



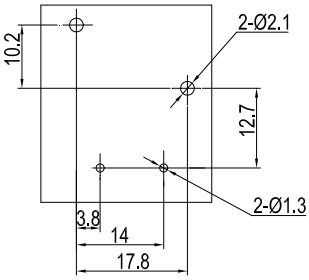
1B(H2) Outline Dimensions



Wiring Diagram (Bottom view)

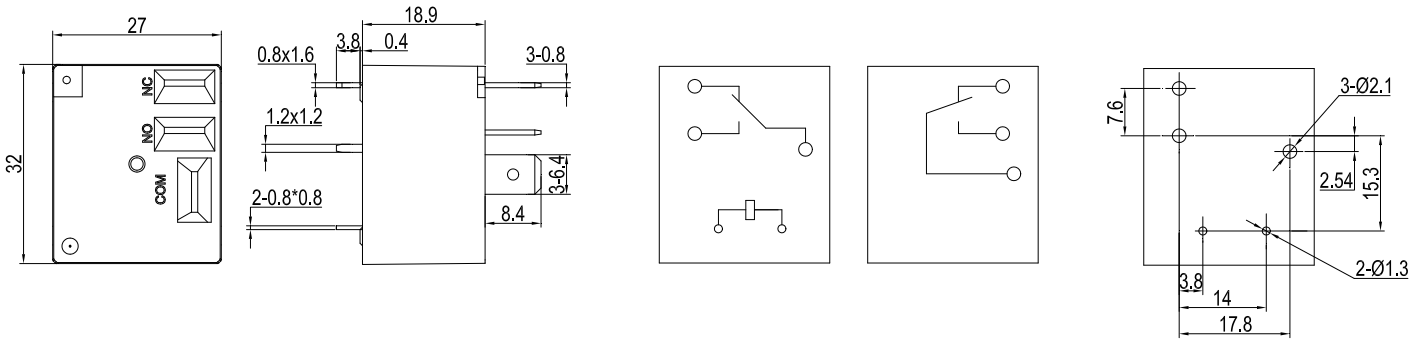


PCB Layout (Bottom view)

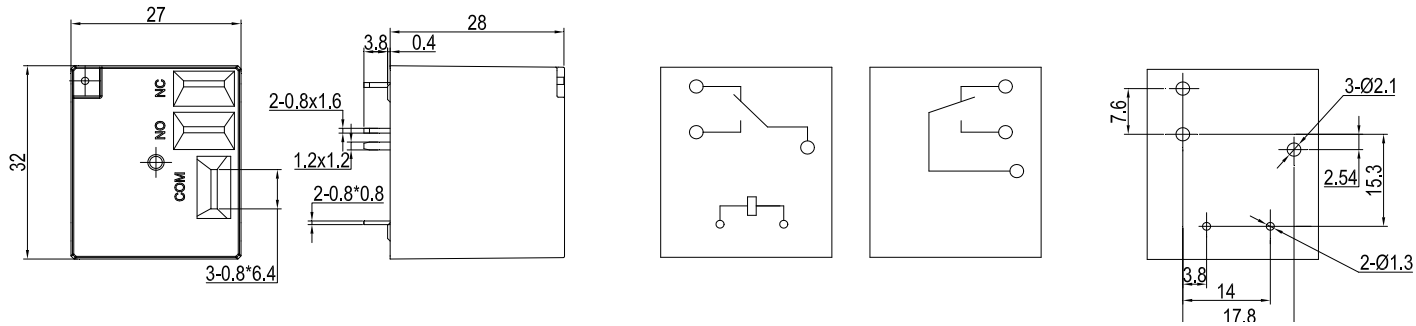


■ OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

1C Outline Dimensions | Wiring Diagram (Bottom view) | PCB Layout (Bottom view)



1C(H2) 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.	Contact arrangement	Contact material	Approved ratings
UL/C-UL	E475405	1A、1C(NO)	AgNi、$AgSnO_2$	20A 30VDC 85℃ 40A/30A 250VAC 85℃ 2HP 250VAC 85℃ 20A 250VAC(PF=0.6) 85℃
			$AgSnO_2$	TV-10 125VAC 85℃ 20A 48VDC 85℃
		1B、1C(NC)	AgNi、$AgSnO_2$	15A 30VDC 85℃ 20A 250VAC 85℃ 1HP 125VAC 85℃
TUV	R 50338930	1A(NO)	AgNi、$AgSnO_2$	40A 250VAC 85℃ 20A 30VDC 85℃
		1B(NC)		20A 250VAC 85℃ 15A 30VDC 85℃
		1C(NO/NC)		20A/10A 250VAC 85℃ 10A/10A 30VDC 85℃
CQC	CQC16002140939	1A、1C(NO)	AgNi、$AgSnO_2$	40A 250VAC 85℃ 20A 30VDC 85℃
		1B、1C(NC)		20A 250VAC 85℃ 15A 30VDC 85℃
		1C(NO/NC)		20A/10A 250VAC 85℃ 10A/10A 30VDC 85℃

■ NOTICE

① In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;

② The specification is for reference only.Specifications subject to change without notice.