



Miniature Power Relay

SMH

Features

- 16A switching capability
- Dielectric strength : 10,000V

Safety certificate

UL, c-UL File No : E179745

TUV File No : R50148605

CQC File No : CQC05001014267、CQC12002072618

Contact Capacity

Type	SMH
Rated load (Resistive load)	16A 277VAC
Max. Switching Current	20A
Max. Switching voltage	277VAC
Max. Switching power	5,540VA
Min. Switching load	6V 1A

Characteristic Data

Contact material	Silver alloy	
Contact resistance	100mΩ Max. (at 1A 6VDC)	
Operate time (at rated coil voltage)	20ms Max. (No diode)	
Release time	10ms Max. (No diode)	
Insulation resistance	1,000MΩ Min. (DC500V)	
Dielectric strength	Between open contacts: 1,000VAC 50/60Hz for 1min.	
	Between coil and contact: 5,000VAC 50/60Hz for 1min.	
Vibration Resistance	Destructive	10 ~ 55Hz, at double amplitude of 1.5mm
	Functional	10 ~ 55Hz, at double amplitude of 1.5mm
Shock Resistance	Destructive	100G Min.
	Functional	10G Min.
Endurance	Mechanical endurance 7,200 ops/h	10,000,000 (at room temperature)
	Electrical endurance (360ops/h)	100,000 (at room temperature)
Ambient Temperature	-40°C ~ +85°C (No condensation)	
Weight	Approx. 15.8g	

(1) . The Data shown above are initial values.

(2) . Only typical loads are listed above. Other load specifications can be available upon request.

(3) . The electrical endurance test has been carried out on flux proofed version.

Coil Data (at 20°C)

Nominal voltage (VDC)	Nominal operating current $\pm 10\%$ (mA)	Coil resistance $\pm 10\%$ (Ω)	Max allowable voltage (VDC)	Operate voltage (Max.)	Release voltage (Min.)	Nominal operating power (W)
5	100	50	130% of Nominal Voltage	75% of Nominal Voltage	5% of Nominal Voltage	0.5W
6	83.33	72				
9	55.56	162				
12	41.67	288				
18	27.78	648				
24	20.83	1,152				
48	10.42	4,608				

The data shown above are initial values. Do not apply maximum allowable voltage on coil for more than 10 minutes to avoid overheating of the coil.

Safety Certificate Ratings (Note: More details of approved ratings, please refer to the safety certificates)

Certificates	CQC	TUV	UL/cUL
File No.	CQC05001014267	R50148605	E179745
Approved Ratings	16A 250VAC	16A 277VAC 16A 30VDC	20A 277VAC , Resistive

(1) All values unspecified are at room temperature.

(2) Only typical ratings are listed above and the endurance differ in each load. Other specific load information are available upon request.

(3) For sealed type testing, please open the ventilation hole in the case before test.

Ordering Information

Nomenclature

SMH	- 1	12	D	M	P	- F	-XX	Special Parameter : Nil-Standard , 01- operate time :7.2ms; 02- operate time :7.2ms pinning on drawing
								Insulation System : Nil-Standard, B-Class B, F-Class F
								Contact material : Nil-Standard, P-PCB, Letter or number-Special requirement
								Contact Arrangement : M-Form A
								Coil power : D-0.5W
								Rated coil voltage(VDC) : 05,06,09,12,18,24 , 48
								Number of poles : 1-1Pole
								Type : SMH

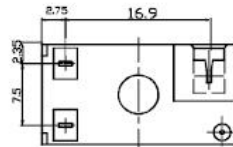
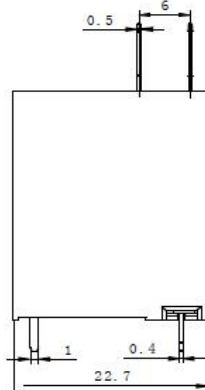
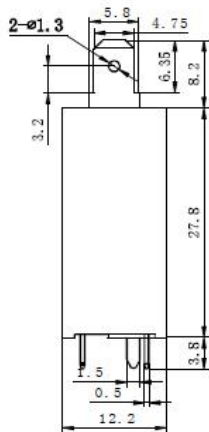
(1) . Flux-proofed relays can not be used in the environment with pollutants like H₂S, SO₂, NO₂, dust, etc.

(2) . Water cleaning or surface process is not suggested after the flux-proofed relays are assembled on PCB.

(3) . Special requirements of customers (XX) shall be evaluated by our company and marked by characteristic symbols.

Outline dimension, wiring diagram, PCB layout (Unit: mm)

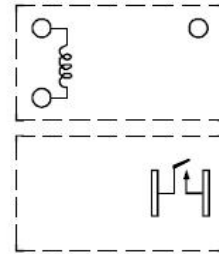
Standard type



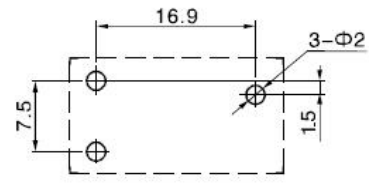
(bottom view)

(bottom view)

(Top view)

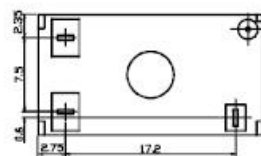
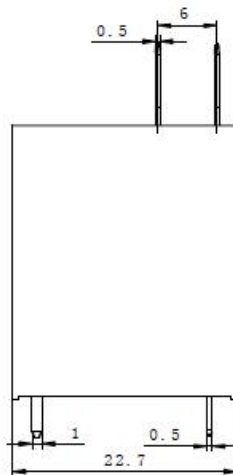
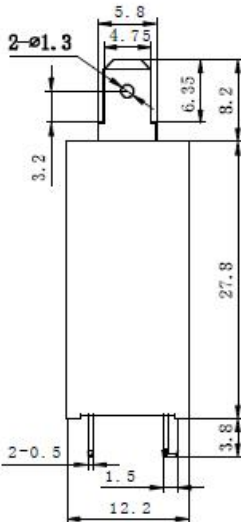


Wiring Diagram (bottom view)



PCB Layout (bottom view)

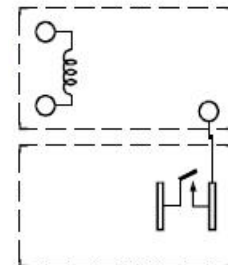
PCB type



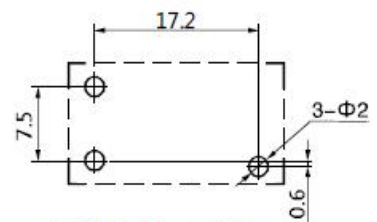
(bottom view)

(bottom view)

(Top view)

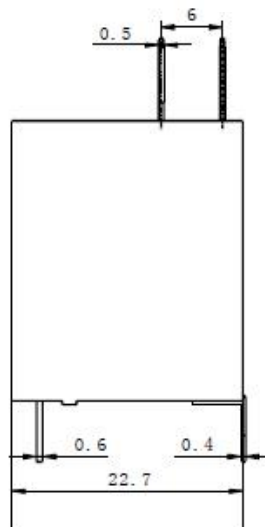
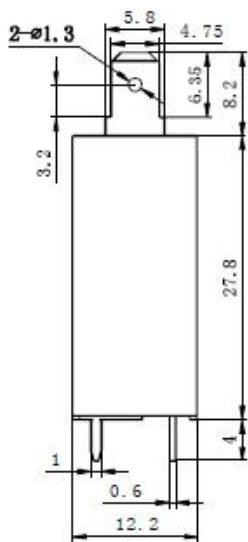


Wiring Diagram

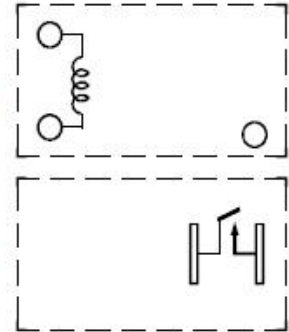


PCB Layout (bottom view)

Special type

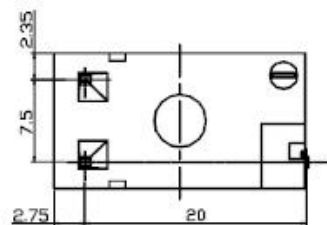


(bottom view)

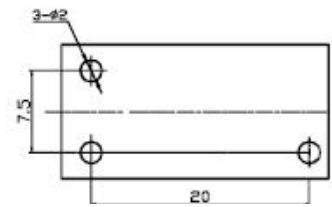


(Top view)

Wiring Diagram



(bottom view)



PCB Layout (bottom view)

In case of no tolerance shown on outline dimension :
 < 1mm : $\pm 0.2\text{mm}$ 1~5mm : $\pm 0.3\text{mm}$ > 5mm : $\pm 0.4\text{mm}$

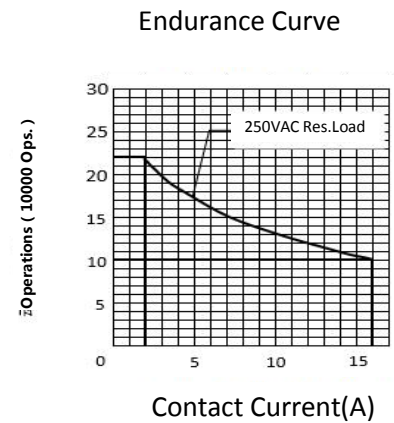
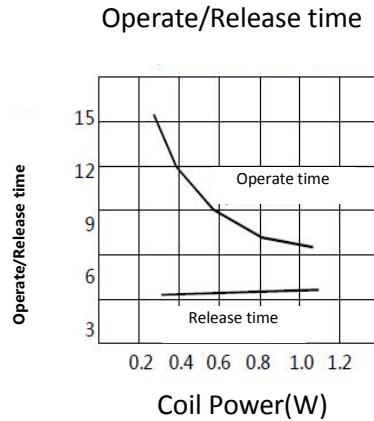
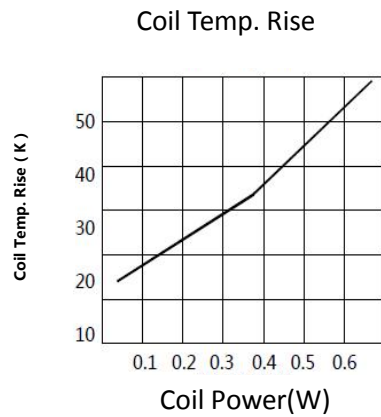
1.The dimension of pin is the size before tinning

2.Tolerance of PCB layout : $\pm 0.1\text{ mm}$.

Typical Applications

- Household appliance
- Office equipment
- Sound equipment
- Air conditioner

Characteristic Curves



Note :

- (1) . Test conditions: room temperature, flux-proof product, resistive load, 1s on, 9s off.
- (2) . The above curves are for reference only, and the final result is subject to the experiment.

Disclaimer: The specification is for reference only. Specifications are subject to change.

We could not evaluate all the performance and all the parameters for every possible applications. Thus the users should in a right position to choose suitable product for their own application. For sealed relays, after installation and cleaning, please open the ventilation hole in the case before use. If there is any query, please contact Sanyou for technical services. However it is the user's responsibility to determine which product should be used.