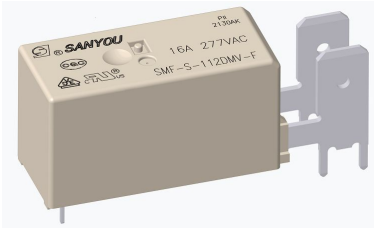
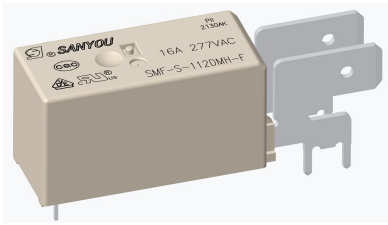
三友继电器 SANYOU RELAYS

Miniature Power Relay SMF





Features

- High contact capability: 16A switching capability.
  Small size, 15.7mm high.
  Vertical or Horizontal quick terminal output.
- Creepage distance≥10 mm, IP /OP 5,000V. Withstand surge voltage of 10KV.
- Compliance with IEC60335-1 GWIF850℃/GWIT775℃; CTI>=250V.
- Ambient temperature range -40℃～105℃, -40℃～125℃ (confirmed by VDE only).
- IEC60079-15 compliant product is available.

Safety certificate

UL、cUL (File No.) : E179745
VDE (File No.) : 40031353
CQC (File No.) : CQC13002089403

Contact Data

Type	SMF
Rated load (Resistive load)	16A 277VAC
Max. switching current	16A
Max. switching voltage	277VAC
Max. switching power	4432VA
Min. switching load	6V 1A

Characteristic

Contact material	Silver alloy	
Contact resistance	100mΩ Max. (at 1A 6VDC)	
Operate time(at rated coil voltage)	15ms Max. (No diode)	
Release time	10ms Max. (No diode)	
Insulation resistance	Min. 1,000MΩ (at 500VDC)	
Dielectric strength	Between open contacts: 1,000VAC , 50/60Hz for 1min.	
	Between coil and contact: 5,000VAC , 50/60Hz for 1min.	
Vibration resistance (NO)	Destructive	10～55Hz, at double amplitude of 1.5 mm
	Functional	10～55Hz, at double amplitude of 1.5 mm
Shock resistance (NO)	Destructive	100G Min.
	Functional	10G Min.
Endurance	Mechanical endurance (10,800 ops./h)	10,000,000 (at room temperature)
	Electrical endurance (360 ops./h)	100,000 (at room temperature)
Ambient temperature	-40℃～+105℃ (No condensation)	
Weight	Approx.15.5g	

Coil Data (at 20℃)

Nominal voltage (VDC)	Nominal operating current ±10% (mA)	Coil resistance ±10% (Ω)	Max. allowable voltage	Operate voltage (Max.)	Release voltage (Min.)	Nominal operating power
5	80.00	62.5	130% of nominal voltage	75% of nominal voltage	5% of nominal voltage	Approx.0.4W
6	66.67	90				
9	44.44	202.5				
12	33.33	360				
18	22.22	810				
24	16.67	1440				
48	8.33	5760				
60	7.00	8570				
110	3.82	28800				

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	VDE	UL/cUL
File No.	CQC13002089403	40031353	E179745
Approved ratings	16A 277VAC	16A 277VAC (-40℃~+125℃)	16A 277VAC

(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

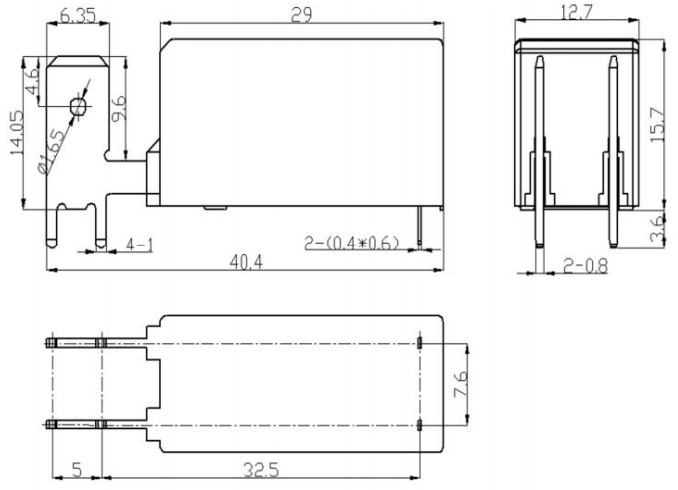
SMF	-S	-1	12	D	M	V	1	-F	-XX	
										Special Parameter: Nil-Standard type; Letters or Numbers-Special requirements
										Insulation System: Nil-Standard B-Class B F-Class F
										Contact Material: Nil-AgNi 1-$AgSnO_2$
										Terminal Form: V- Vertical quick terminal H-Horizontal quick terminal
										Arrangement: M-Form A B-Form B
										Coil Power: D-0.4W
										Rated Coil Voltage (VDC) : 05，06，09，12，18，24，48，60，110
										Number of Poles: 1-1 Pole
										Protective Construction: S- Flux-proofed SH- Sealed type washable
										Type: SMF

(1) Plastic sealing type can not be used in polluted environment (containing H_2S, $S0_2$, $N0_2$, dust and other pollutants).

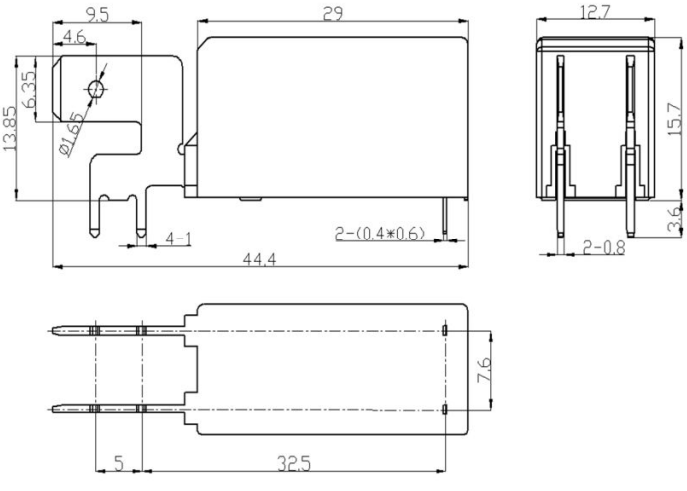
(2) After the plastic seal product is loaded into PCB welding, the whole cleaning or surface treatment can not be carried out.

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

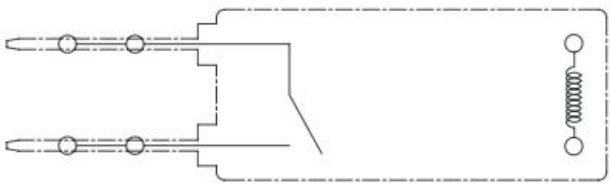
Outline dimension, wiring diagram, PCB layout (Unit: mm)



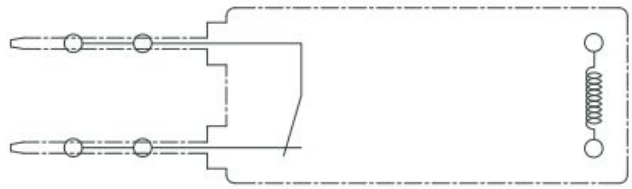
Vertical quick terminal



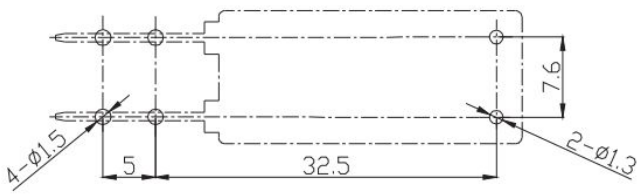
Horizontal quick terminal



1A Wiring Diagram (bottom view)



1B Wiring Diagram (bottom view)



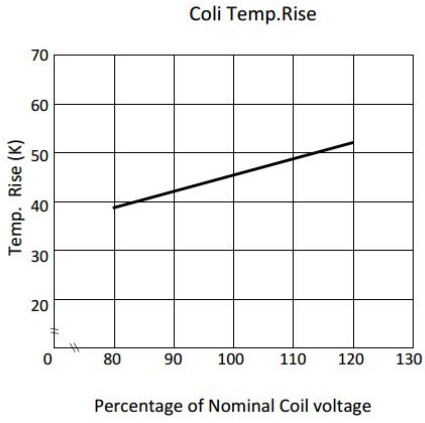
P.C.B. Layout (bottom view)

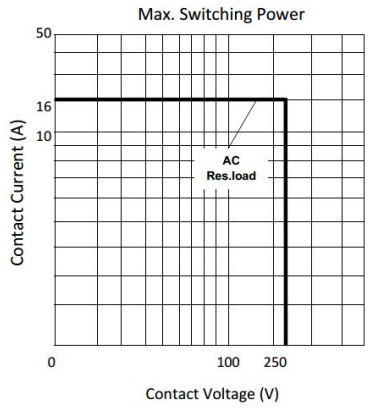
In case of no tolerance shown on outline dimension
If dimension < 1 mm, tolerance: ±0.2mm
If dimension 1~5mm, tolerance: ±0.3mm
If dimension > 5mm, tolerance: ±0.4mm
Note:
1. The dimension of pin is the size before tinning
2. Tolerance of PCB layout: ±0.1 mm

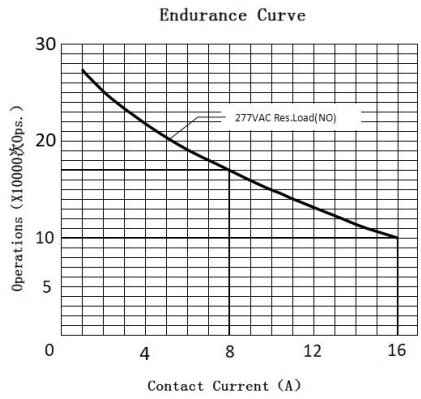
Typical Applications

●Home appliances, washing machine, air-conditioning, microwave oven, sound, monitor, industrial control instrument, etc.

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 without prior notice.

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.