三友继电器 SANYOU RELAYS

General Power Relay SMH V3.3

Features:

- Low coil power consumption.
- Micro-miniature relay, standard PCB terminals.
- IEC60335-1 compliant product is available.
- IEC60079-15 compliant product is available.

Safety certificate:

- Home appliances: air conditioner, heater, etc.
- Vending machine.
- Office equipment: computer, fax machine, etc.
- Electric controlled window, car antenna, door lock, etc.

Approvals

UL、c-UL (File No.)：E179745
TUV (File No.)：R50148605
CQC (File No.)：CQC05001014267，CQC12002072618

Contact Data

Contact arrangement	1form A(NO)
Rated voltage	277VAC
Max.switching voltage	277VAC
Rated current	16A
Min. recommended contact load	1A, 6VDC
Breaking apacity max.	4432VA
Contact material	$AgSn0_2$
Frequency of operation	360 ops./h
Operate/release time max.	20ms/10ms
Electrical endurance	See electrical endurance graph

Contact ratings

Type	Contact	Load	Cycles
UL 60947-4-1			
SMH	A(NO)	16A,277VAC,cos ϕ=1,85℃	$1X10^5$
SMH	A(NO)	TV-8, 120 VAC, 70℃	$2.5X10^4$
GB/T 21711.1-2023			
SMH	A(NO)	16A,277VAC,85℃	$2X10^4$
EN 60730-1			
SMH	A(NO)	16A,277VAC,85℃	$1X10^5$
Mechanical endurance			$\geqslant 1x10^7$

Coil Data

Coil voltage range:	5 to 48VDC
Operative range, IEC 61810	2
Coil insulation system according UL	ClassB, F

Coil Data（continued）

Coil versions, DC coil

Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω（1±10%）	Rated coil powers mW
5	≤3.75	≥0.5	50	500
6	≤4.5	≥0.6	72	500
9	≤6.75	≥0.9	162	500
12	≤9	≥1.2	288	500
18	≤13.5	≥1.8	648	500
24	≤18	≥2.4	1152	500
48	≤18	≥2.4	4608	500

All fgures are given for coil without pre-energization, at ambient temperature 20°C

Insulation Data

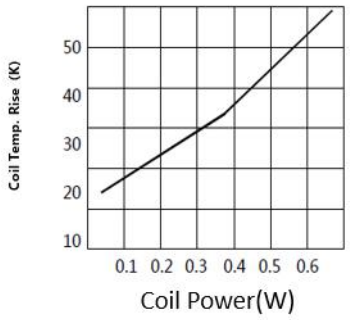
Initial dielectric strength	
between open contacts	1000VAC
between contact and coil	5000VAC
Clearance/creepage	
between contact and coil (Clearance)	≥8.0mm(actual)
between contact and coil(Creepage)	≥8.0mm(actual)
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 175V/PTI 250V

Other Data

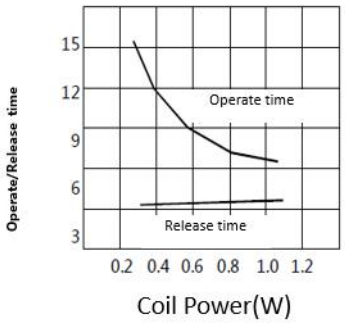
Material compliance: EU RoHS/ELV, China RoHS, REACH

Ambient temperature	-40℃ to +85℃
Category of environmental protection IEC 61810	RTII - flux proof
Weight	Approx. 15.8g
Resistance to soldering heat THT (IEC 60068-2-20)	260°C/5s
Packaging/unit	tube, tray

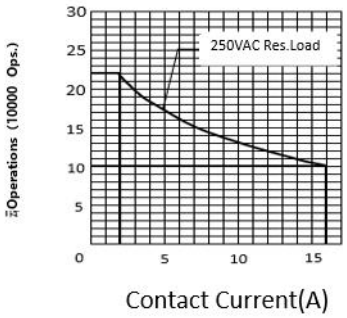
Coil Temp. Rise



Operate/Release time



Endurance Curve



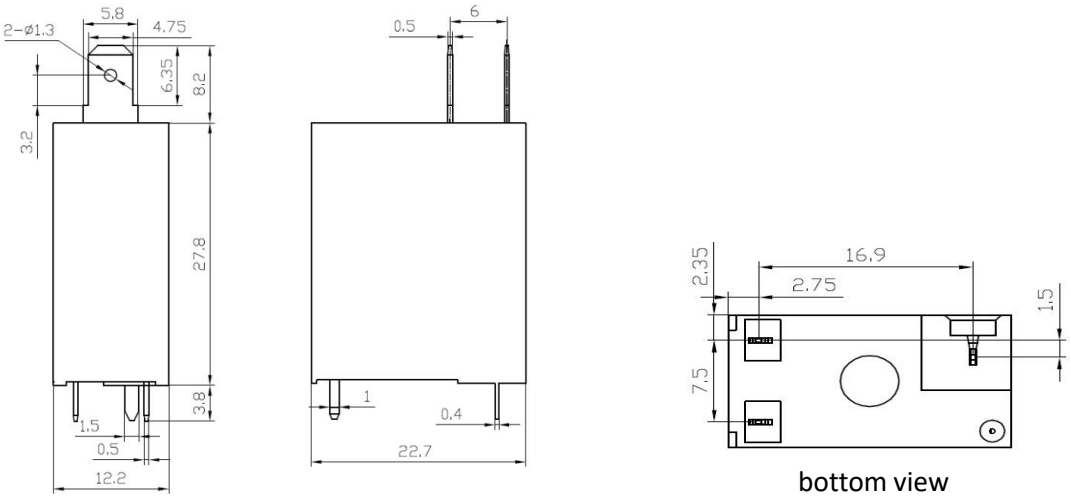
Note:

(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.

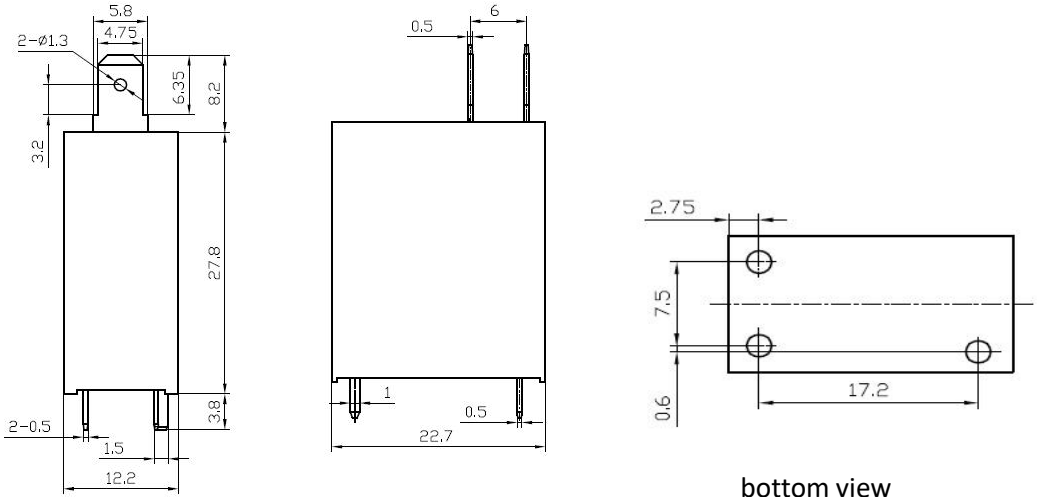
Dimension

Standard type



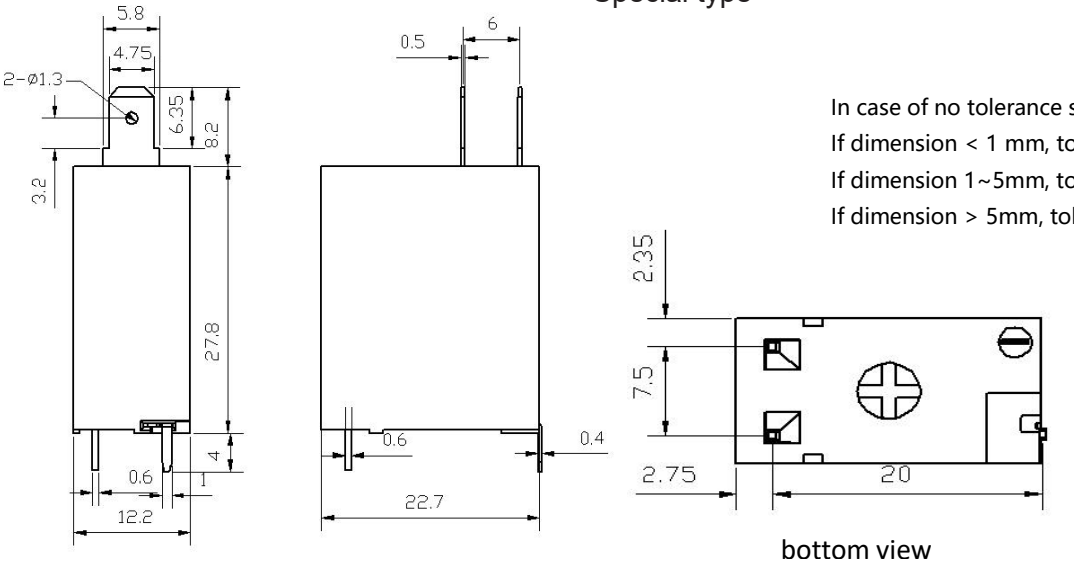
bottom view

PCB type



bottom view

Special type

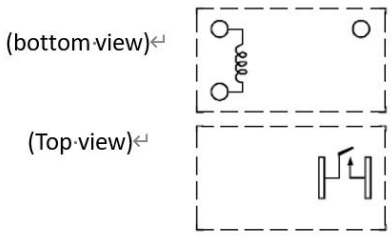


bottom view

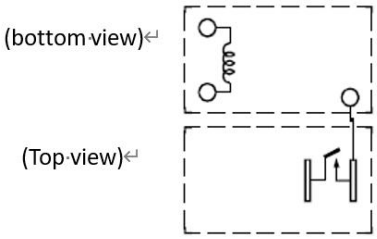
In case of no tolerance shown on outline dimension
If dimension < 1 mm, tolerance: ±0.2mm
If dimension 1~5mm, tolerance: ±0.3mm
If dimension > 5mm, tolerance: ±0.4mm

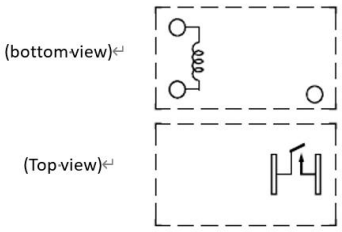
Connection diagrams (bottom view)

Standard type



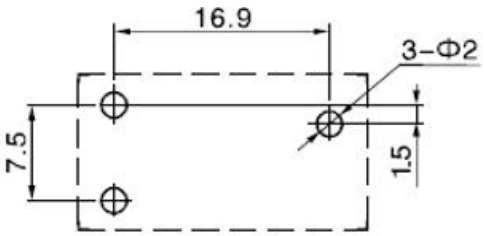
PCB type





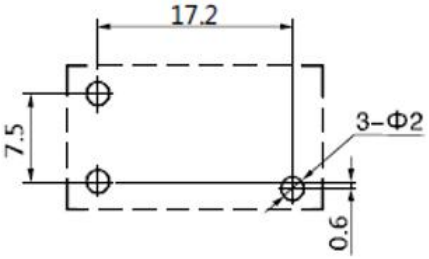
Connection diagrams (bottom view)

Standard type



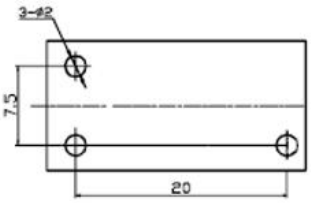
PCB Layout (bottom view)

PCB type



PCB Layout (bottom view)

Special type



PCB Layout (bottom view)

Note:
1.The dimension of pin is the size before tinning
2.Tolerance of PCB layout: ±0.1 mm.

Product code structure

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 H_2S, SO_2, NO_2, 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.

Examples of ordering codes

SMH-112DM relay SMH , Flux-proof , rated DC voltage 12V ,coil power 0.5W,1NO,and contact material $AgSnO_2$.

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.