



### Features

- SPST through DPDT contact arrangements.
- 10mm spacing, 5kV dielectric between coil and contact.
- Low profile: 15.7mm high.
- Withstand surge voltage of 10kV.
- Flux-Proofed and sealed washable type available.

### Safety Approval

UL, C-UL File No.: Pending  
 VDE File No.: Pending  
 CQC File No.: Pending

### Contact Capacity

Model	SM -1 Pole	SM -2 Poles
Nominal switching capacity (res. load)	16A 250VAC / 12A 250VAC	8A 250VAC
Max. switching current	20A/12A	10A
Max. switching voltage	277VAC	277VAC
Max. switching power	4,000VA / 3,000VA	2,000VA

### Charateristic Data

Contact material	Silver alloy	
Initial contact resistance (at 6VDC 1A)	50mΩ Max.	
Operate time (at nominal volt.)	15msec. Max.	
Release time (at nominal volt.)	10msec. Max.	
Initial insulation resistance	1,000MΩ Min.(DC500V)	
Initial dielectric strength	Between open contacts: AC1,000V, 50/60Hz 1Min.	
	Between coil and contact: AC5,000V, 50/60Hz 1Min.	
	Between contact sets: AC2,500V, 50/60Hz 1Min.	
Vibration resistance	Functional	10 ~ 55Hz at double amplitude of 1.5 mm
	Destructive	10 ~ 55Hz at double amplitude of 1.5 mm
Shock resistance	Functional	10G Min.
	Destructive	100G Min.
Endurance (operations)	Mechanical (at 10,800 ops./h)	10,000,000
	Electrical (at 1,200 ops./h)	100,000
Ambient temperature	-40°C ~ +105°C (no condensation)	
Unit weight	Approx. 13.5 g	

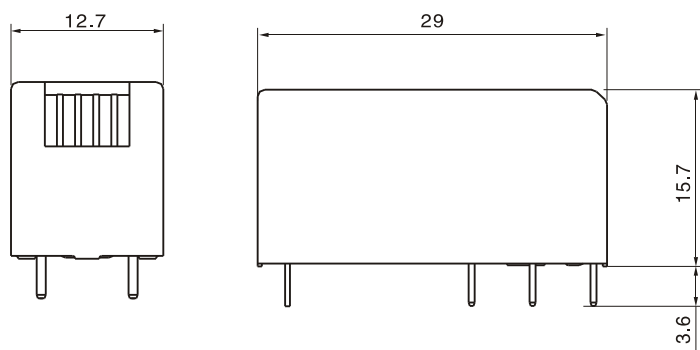
### Coil Data (at 20°C)

Nominal voltage (VDC)	Nominal operating current ± 10% (mA)	Coil resistance ± 10% (Ω)	Max. allowable voltage	Pick-up voltage (Max.)	Drop-out voltage (Min.)	Nominal operating power
5	81.00	63	130 % of nominal voltage	75 % of nominal voltage	10 % of nominal voltage	Approx. 0.4W
6	67.00	90				
9	45.00	203				
12	33.00	360				
18	22.00	810				
24	17.00	1440				
48	8.00	5760				
60	6.70	8570				
110	3.60	28800				

## Ordering Information

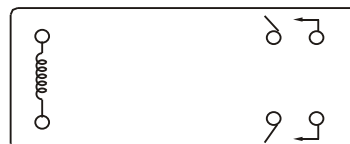
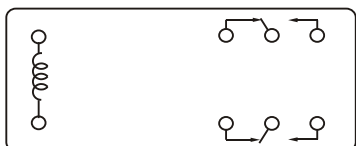
Nomenclature										
SM	-S	-1	12	D	M	H	F	-XX		
Special Parameter: Nil-Standard type, Letter or number-Special requirement										
Insulation System: Nil-Standard, B-Class B, F-Class F										
Contact Capacity: Nil-1 pole, 16A, 5.0mm pinning or 2 poles, 8A, 5.0mm pinning; H-1 pole, 12A, 5.0mm pinning; T-1 pole, 12A, 3.5mm pinning										
Contact Form: Nil-Form C, M-Form A										
Coil Power: D-0.4W										
Coil Voltage (VDC): 05, 06, 09, 12, 18, 24, 48, 60, 110										
Number of Poles: 1-1 Pole, 2-2 Poles										
Protective Construction: S-Flux proofed SH-Sealed type washable										
Type Designation: SM										

## Outline Dimensions, Wiring Diagram, P.C. Board Layout (unit: mm)

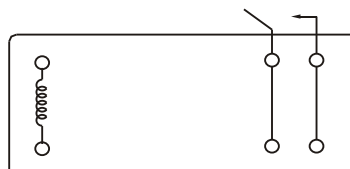
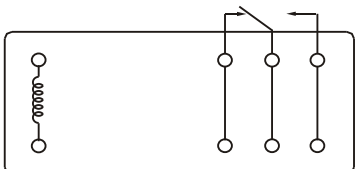


Unless otherwise specified:  
 If dimension < 1mm, tolerance:  $\pm 0.2\text{mm}$ ;  
 If dimension 1~5mm, tolerance:  $\pm 0.3\text{mm}$ ;  
 If dimension > 5mm, tolerance:  $\pm 0.4\text{mm}$ .  
 Note: 1. Extended terminal dimension is dimension before soldering.  
 2. Tolerance of P.C.B. layout:  $\pm 0.1\text{mm}$ .

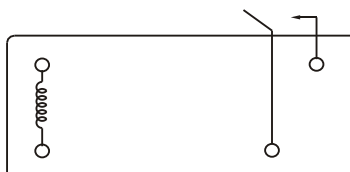
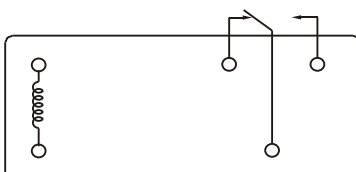
2 Poles, 8A  
5.0mm pinning



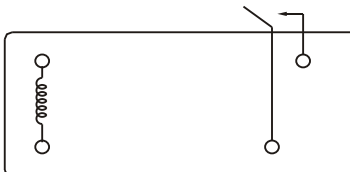
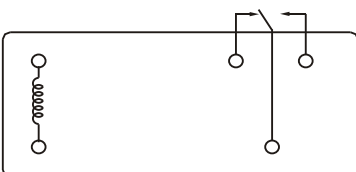
1 Pole, 16A  
5.0mm pinning



1 Pole, 12A  
5.0mm pinning

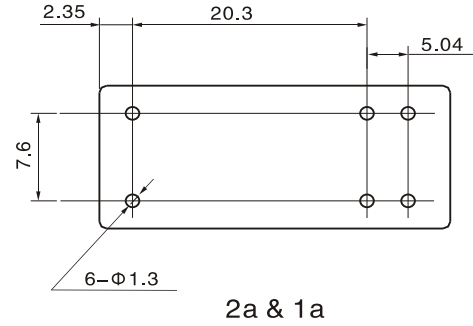
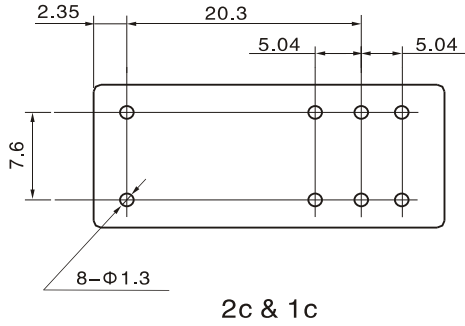


1 Pole, 12A  
3.5mm pinning

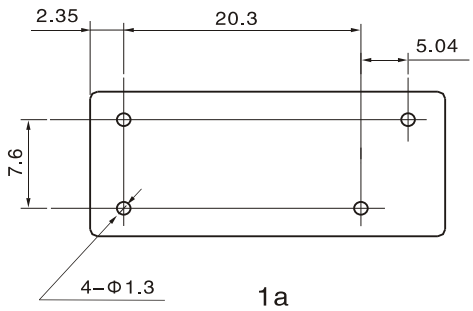
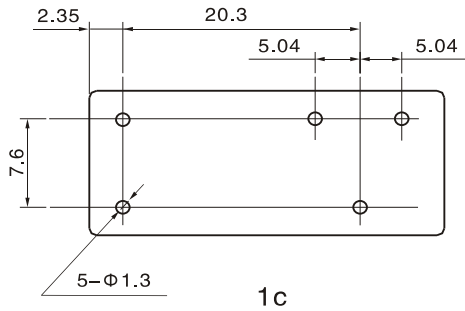


Wiring Diagram (bottom view)

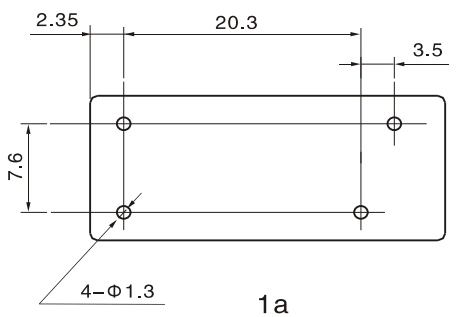
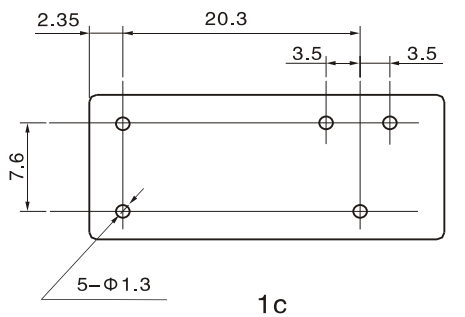
2 Poles, 8A  
5.0mm pinning  
&  
1 Pole, 16A  
5.0mm pinning



1 Pole, 12A  
5.0mm pinning



1 Pole, 12A  
3.5mm pinning



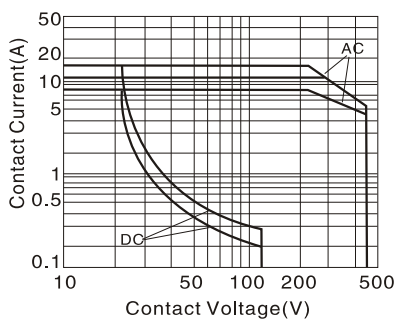
P.C.B. Layout (bottom view)

## Typical Applications

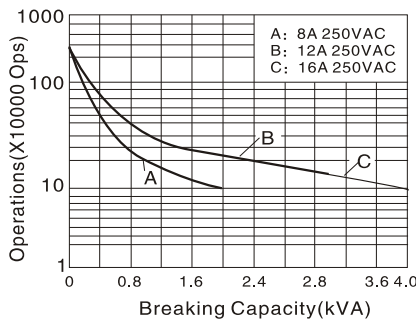
● Home appliances, washing machine, air conditioner, microwave oven, audio equipment, monitor, industrial control equipment, instrument, etc.

## Characteristic Curves

Maximum Switching Power



Endurance Curve



Coil Operating Range

