

Features

- High switching capability: 16A.
- Small size for density PCB mounting.
- Dielectric strength: 5000V.

Safety Approval

UL, C-UL File No.: E190598
TUV File No.: R50143456
CQC File No.: CQC07001018779

Contact Capacity

| | |
|----------------------------------------|-------------------------|
| Model | SMIH |
| Nominal switching capacity (res. load) | 17A 277VAC / 16A 250VAC |
| Max. switching current | 20A |
| Max. switching voltage | 277VAC |
| Max. switching power | 4,709VA |

Charateristic Data

| | | |
|-----------------------------------------|---------------------------------------------------|-----------------------------------------|
| Contact material | Silver alloy | |
| Initial contact resistance (at 6VDC 1A) | 50mΩ Max. | |
| Operate time (at nominal volt.) | SMIH-D: 15msec. Max. | SMIH-L: 20msec. Max. |
| Release time (at nominal volt.) | 8msec. 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. | |
| 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 | 100G Min. |
| | Destructive | 10G Min. |
| Endurance (operations) | Mechanical (at 10,800 ops./h) | 10,000,000 |
| | Electrical (at 900 ops./h) | 100,000 |
| Ambient temperature | -40°C ~ +105°C (no condensation) | |
| Unit weight | Approx. 13.8 g | |

Coil Data (at 20°C)

Standard (D)

| 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 |
|-----------------------|--------------------------------------|---------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| 3 | 240.00 | 12.5 | 130 % of nominal voltage | 80 % of nominal voltage | 5 % of nominal voltage | Approx. 0.72W |
| 5 | 144.00 | 35 | | | | |
| 6 | 120.00 | 50 | | | | |
| 9 | 80.00 | 112 | | | | |
| 12 | 60.00 | 200 | | | | |
| 18 | 40.00 | 450 | | | | |
| 24 | 30.00 | 820 | | | | |
| 48 | 15.00 | 3,300 | | | | |

Coil Data (at 20°C)

Sensitivity (L)

| 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 |
|-----------------------|--------------------------------------|---------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| 3 | 180.00 | 17 | 130 % of nominal voltage | 80 % of nominal voltage | 5 % of nominal voltage | Approx. 0.54W |
| 5 | 108.00 | 47 | | | | |
| 6 | 90.00 | 68 | | | | |
| 9 | 60.00 | 150 | | | | |
| 12 | 45.00 | 270 | | | | |
| 18 | 30.00 | 600 | | | | |
| 24 | 22.50 | 1,100 | | | | |
| 48 | 11.25 | 4,400 | | | | |

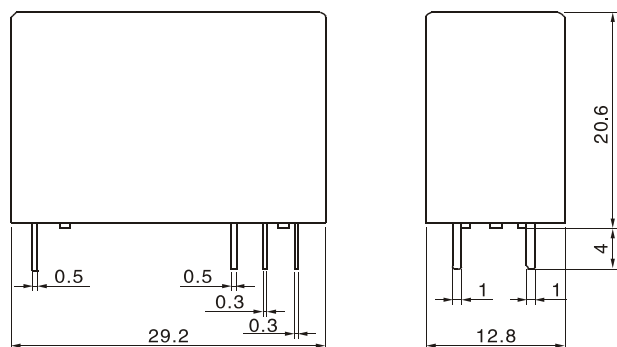
Safety Approval Ratings

| Approval | CQC | TUV | UL/CUL |
|------------------|----------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| File No. | CQC07001018779 | R 50143456 | E190598 |
| Approved ratings | 16A 250VAC NO:17A 277VAC NC:10A 277VAC | 16A 250VAC 16A 30VDC | 16A 250VAC, Resistive & General Use, NO&NC 20A 120VAC, Resistive & General Use, NO&NC 8A 250VAC, Resistive & General Use, NO&NC 17A 277VAC, Resistive & General Use, NO 10A 277VAC, Resistive & General Us, NC 1/3HP 120VAC, NO&NC Pilot Duty: 3A 250CAC, NO 1A 250CAC, NC TV-8 240VAC, NO TV-3 240VAC NC |

Ordering Information

| Nomenclature | |
|------------------------|-------------------------------------------------------------------------------|
| SMIH-S-1 12 D M 1-F-XX | Special Parameter: Nil-Standard type, Letter or number-Special requirement |
| | Insulation System: Nil-Standard, B-Class B, F-Class F |
| | Contact Material: Nil-AgSnO ₂ , 1-AgCdO |
| | Contact Form: Nil-Form C, M-Form A |
| | Coil Power: D-0.72W, L-0.54W |
| | Coil Voltage (VDC): 03, 05, 06, 09, 12, 18, 24, 48 |
| | Number of Poles: 1-1 Pole |
| | Protective Construction: S-Flux proofed, SH-Sealed type washable |
| | Type Designation: SMIH |

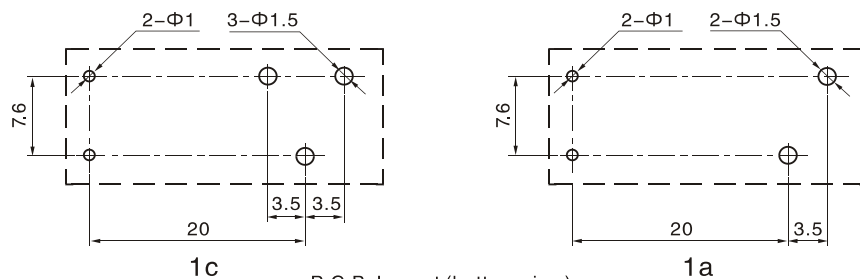
Outline Dimensions, Wiring Diagram, P.C. Board Layout (unit: mm)



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: $\pm 0.1\text{mm}$.



Wiring Diagram (bottom view)



P.C.B. Layout (bottom view)

Typical Applications

- Home appliances, air conditioner, microwave oven, audio equipment, monitor, industrial control equipment, instrument, etc.

Characteristic Curves

