

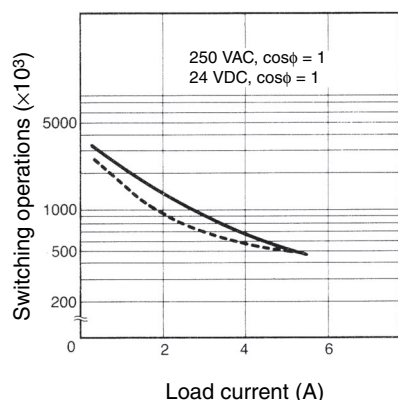
## ■ Characteristics

|  |   |
|--|---|
| <b>Accuracy of operating time</b>            | ±1% FS max. (0.5 s range: ±1%±10 ms max.)   |
| <b>Setting error (see note 1)</b>            | ±10%±50 ms FS max.  |
| <b>Reset time</b>                            | Min. power-opening time: 0.1 s max. (including halfway reset)   |
| <b>Reset voltage</b>                         | 10% max. of rated supply voltage  |
| <b>Influence of voltage (see note 1)</b>     | ±2% FS max.   |
| <b>Influence of temperature (see note 1)</b> | ±2% FS max.   |
| <b>Insulation resistance</b>                 | 100 MΩ min. (at 500 VDC)  |
| <b>Dielectric strength</b>                   | 2,000 VAC, 50/60 Hz for 1 min (between current-carrying terminals and exposed non-current-carrying metal parts) (see note 2)<br>2,000 VAC, 50/60 Hz for 1 min (between operating power circuit and control output) (see note 2)<br>2,000 VAC, 50/60 Hz for 1 min (between different pole contacts; 2-pole model) (see note 2)<br>1,500 VAC, 50/60 Hz for 1 min (between different pole contacts; 4-pole model)<br>1,000 VAC, 50/60 Hz for 1 min (between non-continuous contacts)       |
| <b>Vibration resistance</b>                  | Destruction: 10 to 55 Hz, 0.75-mm single amplitude<br>Malfunction: 10 to 55 Hz, 0.5-mm single amplitude   |
| <b>Shock resistance</b>                      | Destruction: 1,000 m/s <sup>2</sup> (approx. 100G)<br>Malfunction: 100 m/s <sup>2</sup> (approx. 10G)   |
| <b>Ambient temperature</b>                   | Operating: -10°C to 50°C (with no icing)<br>Storage: -25°C to 65°C (with no icing)  |
| <b>Ambient humidity</b>                      | Operating: 35% to 85%   |
| <b>Life expectancy</b>                       | Mechanical: 10,000,000 operations min. (under no load at 1,800 operations/h)<br>Electrical:<br>H3Y-2: 500,000 operations min. (5 A at 250 VAC, resistive load at 1800 operations/h)<br>H3Y-4: 200,000 operations min. (3 A at 250 VAC, resistive load at 1800 operations/h)   |
| <b>Impulse withstand voltage</b>             | Between power terminals:<br>3 kV for 100 to 120 VAC, 200 to 230 VAC, 100 to 110 VDC, 125 VDC<br>1 kV for 12 VDC, 24 VDC, 48 VDC<br>Between exposed non-current-carrying metal parts:<br>4.5 kV for 100 to 120 VAC, 200 to 230 VAC, 100 to 110 VDC, 125 VDC<br>1.5 kV for 12 VDC, 24 VDC, 48 VDC   |
| <b>Noise immunity</b>                        | ±1.5 kV, square-wave noise by noise simulator (pulse width: 100 ns/1 μs, 1-ns rise)   |
| <b>Static immunity</b>                       | Destruction: 8 kV<br>Malfunction: 4 kV  |
| <b>Enclosure rating</b>                      | IP40  |
| <b>Weight</b>                                | Approx. 50 g  |
| <b>EMC</b>                                   | (EMI) EN61812-1<br>Emission Enclosure: EN55011 Group 1 class A<br>Emission AC Mains: EN55011 Group 1 class A<br>(EMS) EN61812-1<br>Immunity ESD: EN61000-4-2: 8 kV air discharge (level 3)<br>Immunity RF-interference from AM Radio Waves:<br>EN61000-4-3: 10 V/m (80 MHz to 1 GHz) (level 3)<br>Immunity Burst: EN61000-4-4: 2 kV power-line (level 3)<br>2 kV I/O signal-line (level 4)<br>Immunity Surge: EN61000-4-5: 2 kV line to ground (level 3)<br>1 kV line to line (level 3) |
| <b>Approved standards</b>                    | UL508, CSA C22.2 No. 14, Lloyds<br>Conforms to EN61812-1 and IEC60664-1. (2.5 kV/2 for H3Y-2/-2-0, 2.5 kV/1 for H3Y-4/-4-0)<br>Output category according to EN60947-5-1.  |

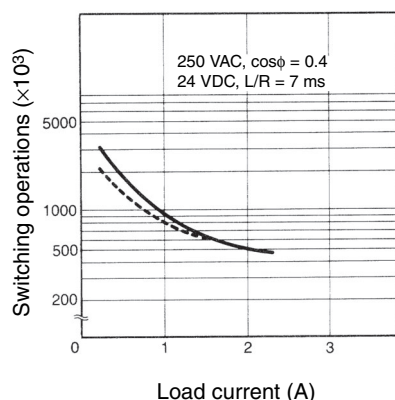
- Note:** 1. Add ±10 mS to the above value for the 0.5-S range model.  
2. Terminal screw sections are excluded.

# Engineering Data

H3Y-2, H3Y-2-0

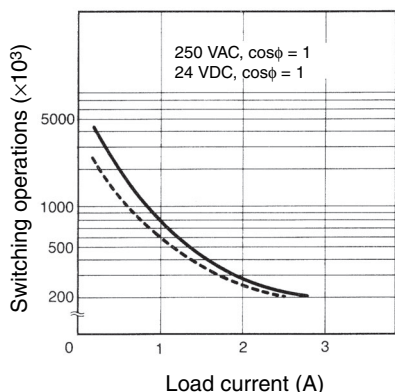


H3Y-2, H3Y-2-0

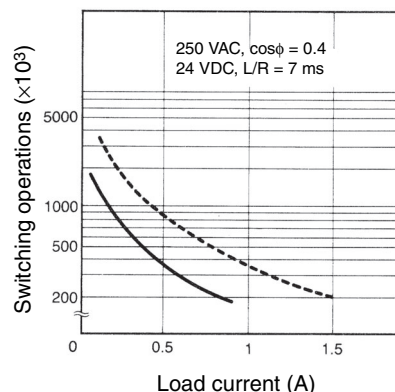


Reference: A maximum current of 0.6 A can be switched at 125 VDC ( $\cos\phi = 1$ ).  
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected. The minimum applicable load is 1 mA at 5 VDC (P reference value).

H3Y-4, H3Y-4-0



H3Y-4, H3Y-4-0

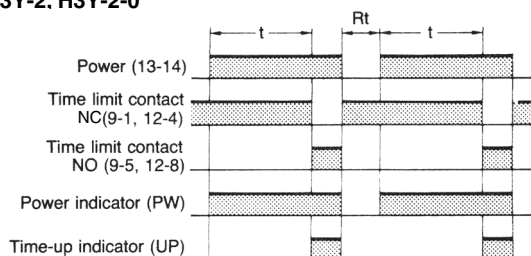


Reference: A maximum current of 0.5 A can be switched at 125 VDC ( $\cos\phi = 1$ ).  
Maximum current of 0.2 A can be switched if L/R is 7 ms. In both cases, a life of 100,000 operations can be expected. The minimum applicable load is 1 mA at 1 VDC (P reference value).

## Operation

### Timing Chart

H3Y-2, H3Y-2-0



H3Y-4, H3Y-4-0

