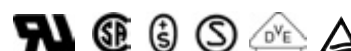
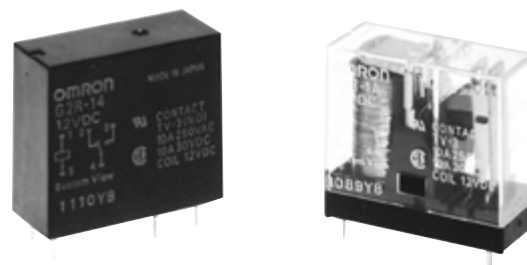


Power PCB Relay G2R

- Creepage distance of 8.0 mm (0.31) min. between coil and contact.
- Dual-winding latching type available.
- Plug-in and quick-connect terminals available.
- High sensitivity (360 mW) and high capacity (16 A) types available.
- Highly stable magnetic circuit for latching endurance and excellent resistance to vibration and shock.
- Safety-oriented design assuring high surge resistance: 10,000 V min. between coil and contacts.
- UL, CSA approved, marked with CE.



Ordering Information

To order: Select the part number and add the desired coil voltage rating (e.g., G2R-14-DC12).

■ Non-Latching

1-Pole - PCB Types

| Type | Contact material | Contact form | Construction | Model |
|------------------|------------------|--------------|--------------|-----------|
| General purpose | AgCdO | SPDT | Semi-sealed | G2R-1 |
| | | | Sealed | G2R-14 |
| | | SPST-NO | Semi-sealed | G2R-1A |
| | | | Sealed | G2R-1A4 |
| High-capacity | | SPDT | Semi-sealed | G2R-1-E |
| | | SPST-NO | | G2R-1A-E |
| High-sensitivity | | SPDT | | G2R-1-H |
| | | | | Sealed |
| | | SPST-NO | Semi-sealed | G2R-1A-H |
| | | | Sealed | G2R-1A4-H |

1-Pole - Plug-in/Quick-connect Types

| Type | Contact material | Contact form | Terminal | Model |
|---|------------------|--------------|---------------|-----------|
| General purpose | AgCdO | SPDT | Plug-in | G2R-1-S |
| LED indicator | | | | G2R-1-SN |
| Surge suppression diode | | | | G2R-1-SD |
| LED indicator and surge suppression diode | | | | G2R-1-SND |
| Upper-mount bracket | | SPDT | Quick connect | G2R-1-T |
| | | SPST-NO | | G2R-1A-T |

- Note:**
1. AgInSn and gold plated contacts available.
 2. Bifurcated button available.
 3. For individual product agency approvals consult factory.
 4. Class B coil insulation available.
 5. Push to test button available on plug-in type. Consult Omron for details.
 6. CE mark only on plug-in and quick connect types (G2R-□-S).

2-Pole - PCB Types

| Type | Contact material | Contact form | Construction | Model | |
|------------------|------------------|--------------|--------------|-------------|-----------|
| General purpose | AgCdO | DPDT | Semi-sealed | G2R-2 | |
| | | | Sealed | G2R-24 | |
| | | DPST-NO | Semi-sealed | G2R-2A | |
| | | | Sealed | G2R-2A4 | |
| High sensitivity | | | DPDT | Semi-sealed | G2R-2-H |
| | | | | Sealed | G2R-24-H |
| | | | DPST-NO | Semi-sealed | G2R-2A-H |
| | | | | Sealed | G2R-2A4-H |

2 Pole - Plug-in/Quick-connect Types

| Type | Contact material | Contact form | Terminal | Model |
|---|------------------|--------------|----------|-----------|
| General purpose | AgCdO | DPDT | Plug-in | G2R-2-S |
| LED indicator | | | | G2R-2-SN |
| Surge suppression diode | | | | G2R-2-SD |
| Led indicator and surge suppression diode | | | | G2R-2-SND |

- Note:** 1. AgInSn and gold plated contacts available.
 2. Bifurcated button available.
 3. For individual product agency approvals consult factory.
 4. Class B coil insulation available.
 5. Push to test button available on plug-in type. Consult Omron for details.

■ Latching

| Type | Contact form | Construction | Model |
|--------------------|--------------|--------------|---------|
| Dual coil latching | SPDT | Semi-sealed | G2RK-1 |
| | SPST-NO | | G2RK-1A |
| | DPDT | | G2RK-2 |
| | DPST-NO | | G2RK-2A |

■ Accessories

Track Mounted Sockets/Track

| Relay | Model | |
|--------------------|----------------------|--|
| | Socket | Mounting track |
| G2R-1-S□□ (1-pole) | P2RF-05 P2RF-05-E | PFP-100N or PFP-50N and |
| G2R-2-S□□ (2-pole) | P2RF-08 P2RF-08-E | PFP-M end plate PFP-S (optional spacer) |

Note: “-E” models are of finger-safe product construction. Round terminals cannot be used. Use Y-shaped terminals.

Screwless Clamp Terminal Socket Ordering Information

| | 1-pole | 2-pole |
|----------------------|-------------------------|-----------|
| Socket | P2RF-05-S | P2RF-08-S |
| Clip & release lever | P2CM-S | |
| Nameplate | R99-11 nameplate for MY | |
| Socket bridge | P2RM-SR, P2RM-SB | |

Note: For complete specifications see the data sheet at Omron's Knowledge center at www.knowledge.omron.com.

Back Connecting Sockets/Plate

| Relay | Terminal | Model | |
|--------------------|----------|----------|-----------------------|
| | | Socket | Socket mounting plate |
| G2R-1-S□□ (1-pole) | Solder | P2R-05-A | P2R-P |
| | PC | P2R-05P | |
| G2R-2-S□□ (2-pole) | Solder | P2R-08A | |
| | PC | P2R-08P | |

Specifications

■ Contact Data

Non-latching general purpose, plug-in, plug-in operation indicator self-contained, plug-in diode self-contained and upper-mount bracket.

| Load | 1-pole type | | 2-pole type | |
|-------------------------|-----------------------------------|---|---------------------------------|---|
| | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) |
| Rated load | 10 A at 250 VAC 10 A at 30 VDC | 7.5 A at 250 VAC 5 A at 30 VDC | 5 A at 250 VAC 5 A at 30 VDC | 2 A at 250 VAC 3 A at 30 VDC |
| Contact material | AgCdO | | | |
| Carry current | 10 A | | 5 A | |
| Max. operating voltage | 380 VAC, 125 VDC | | | |
| Max. operating current | 10 A | | 5 A | |
| Max. switching capacity | 2,500 VA, 300 W | 1,875 VA, 150 W | 1,250 VA, 150 W | 500 VA, 90 W |
| Min permissible load | 100 mA, 5 VDC | | 10 mA, 5 VDC | |

Non-latching high capacity 1-pole type

| Load | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) |
|-------------------------|-----------------------------------|---|
| Rated load | 16 A at 250 VAC 16 A at 30 VDC | 8 A at 250 VAC 8 A at 30 VDC |
| Contact material | AgCdO | |
| Carry current | 16 A | |
| Max. operating voltage | 380 VAC, 125 VDC | |
| Max. operating current | 16 A | |
| Max. switching capacity | 4,000 VA, 480 W | 2,000 VA, 240 W |
| Min. permissible load | 100 mA, 5 VDC | |

Non-latching high-sensitivity

| Load | 1-pole type | | 2-pole type | |
|-------------------------|---------------------------------|---|---------------------------------|---|
| | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) |
| Rated load | 5 A at 250 VAC 5 A at 30 VDC | 2 A at 250 VAC 3 A at 30 VDC | 3 A at 250 VAC 3 A at 30 VDC | 1 A at 250 VAC 1.50 A at 30 VDC |
| Contact material | AgCdO | | | |
| Carry current | 5 A | | 3 A | |
| Max. operating voltage | 380 VAC, 125 VDC | | | |
| Max. operating current | 5 A | | 3 A | |
| Max. switching capacity | 1,250 VA, 150 W | 500 VA, 90 W | 750 VA, 90 W | 250 VA, 45 W |
| Min permissible load | 100 mA, 5 VDC | | 10 mA, 5 VDC | |

Latching

| Load | 1-pole type | | 2-pole type | |
|-------------------------|---------------------------------|---|---------------------------------|---|
| | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) | Resistive load (p.f. = 1) | Inductive load (p.f. = 0.4) (L/R = 7 ms) |
| Rated load | 5 A at 250 VAC 5 A at 30 VDC | 3.50 A at 250 VAC 2.50 A at 30 VDC | 3 A at 250 VAC 3 A at 30 VDC | 1.50 A at 250 VAC 2 A at 30 VDC |
| Contact material | AgCdO | | | |
| Carry current | 5 A | | 3 A | |
| Max. operating voltage | 380 VAC, 125 VDC | | | |
| Max. operating current | 5 A | | 3 A | |
| Max. switching capacity | 1,250 VA, 150 W | 875 VA, 75 W | 750 VA, 90 W | 375 VA, 60 W |
| Min permissible load | 100 mA, 5 VDC | | 10 mA, 5 VDC | |

- Note:** 1. P standard: $\lambda_{50} = 0.10 \times 10^{-6}$ operation.
 2. AgInSn contacts available.
 3. For individual product agency approvals consult factory.

■ Coil Data

Non-latching DC coil

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Coil inductance (ref. value) (H) | | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|------------------------|-----------------------|---------------------------|-------------------------------------|----------------|--------------------|--------------------|---------------------------------|------------------------------|
| | | | Armature OFF | Armature ON | % of rated voltage | | | |
| 3 | 176 | 17 | 0.07 | 0.14 | 70% max. | 15% min. | 110% max. at 70°C (158°F) | Approx. 530 |
| 5 | 106 | 47 | 0.20 | 0.39 | | | | |
| 6 | 88.20 | 68 | 0.28 | 0.55 | | | | |
| 12 | 43.60 | 275 | 1.15 | 2.29 | | | | |
| 24 | 21.80 | 1,100 | 4.27 | 8.55 | | | | |
| 48 | 11.50 | 4,170 | 13.86 | 22.71 | | | | |
| 100 | 5.30 | 18,860 | 67.20 | 93.20 | | | | |
| 110 | 4.80 | 22,900 | 81.50 | 110.60 | | | | |

Non-latching AC coil

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Coil inductance (ref. value) (H) | | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|------------------------|-----------------------|---------------------------|-------------------------------------|----------------|--------------------|--------------------|---------------------------------|------------------------------|
| | | | Armature OFF | Armature ON | % of rated voltage | | | |
| 6 | 150 | 16 | 0.05 | 0.10 | 80% max. | 30% min. | 110% max. at 70°C (158°F) | Approx. 0.9 |
| 12 | 75 | 65 | 0.19 | 0.39 | | | | |
| 24 | 37.50 | 260 | 0.81 | 1.55 | | | | |
| 50 | 18 | 1,130 | 3.25 | 6.73 | | | | |
| 110 | 10.60 | 4,600 | 13.34 | 26.84 | | | | |
| 120 | 7.50 | 6,500 | 21 | 42 | | | | |
| 220 | 5.30 | 22,000 | 51.30 | 102 | | | | |
| 240 | 3.80 | 30,000 | 65.50 | 131 | | | | |

Non-latching high-sensitivity DC coil

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Coil inductance (ref. value) (H) | | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|------------------------|-----------------------|---------------------------|-------------------------------------|----------------|--------------------|--------------------|---------------------------------|------------------------------|
| | | | Armature OFF | Armature ON | % of rated voltage | | | |
| 3 | 120 | 25 | 0.13 | 0.26 | 70% max. | 15% min. | 110% max. at 70°C (158°F) | Approx. 360 |
| 5 | 71.40 | 70 | 0.37 | 0.75 | | | | |
| 6 | 60 | 100 | 0.63 | 1.07 | | | | |
| 12 | 30 | 400 | 2.14 | 4.27 | | | | |
| 24 | 15 | 1,600 | 7.80 | 15.60 | | | | |
| 48 | 7.50 | 6,400 | 31.20 | 62.40 | | | | |

Latching dual coil type - Set coil

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Coil inductance (ref. value) (H) | | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|----------------------------------|-------------|-----------------|-----------------|---------------------------------|------------------------|
| | | | Armature OFF | Armature ON | | | | |
| 3 | 227 | 10.80 | 0.026 | 0.052 | 70% max. | 70% max. | 110% max. at 70°C (158°F) | Approx. 850 |
| 5 | 167 | 30 | 0.073 | 0.146 | | | | |
| 6 | 138 | 43.50 | 0.104 | 0.208 | | | | |
| 12 | 70.60 | 170 | 0.42 | 0.83 | | | | |
| 24 | 34.60 | 694 | 1.74 | 3.43 | | | | |

Latching dual coil type - Reset coil

| Rated voltage (VDC) | Rated current (mA) | Coil resistance (Ω) | Coil inductance (ref. value) (H) | | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (mW) |
|---------------------|--------------------|------------------------------|----------------------------------|-------------|-----------------|-----------------|---------------------------------|------------------------|
| | | | Armature OFF | Armature ON | | | | |
| 3 | 200 | 15 | 0.001 | 0.002 | 70% max. | 70% max. | 110% max. at 70°C (158°F) | Approx. 600 |
| 5 | 119 | 42 | 0.003 | 0.006 | | | | |
| 6 | 100 | 60 | 0.005 | 0.009 | | | | |
| 12 | 50 | 240 | 0.018 | 0.036 | | | | |
| 24 | 25 | 960 | 0.079 | 0.148 | | | | |

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.
2. The operating characteristics are measured at a coil temperature of 23°C (73°F).

■ Characteristics

| Item | | Non-latching | Latching |
|-----------------------|------------------------|---|--|
| Contact resistance | | 100 m Ω | |
| Operate (set) time | | 15 ms. max. | 20 ms max. |
| Release (reset) time | | AC: 10 ms max.; DC: 5 ms max. | 20 ms max. |
| Bounce time | Operate | --- | Mean value approx. 3 ms |
| | Release | --- | Mean value approx. 8 ms |
| Operating frequency | Mechanical | 18,000 operations/hour | |
| | Electrical | 1,800 operations/hour (under rated load) | |
| Insulation resistance | | 1,000 M Ω min. (at 500 VDC) | |
| Dielectric strength | | 5,000 VAC, 50/60 Hz for 1 minute between coil and contacts | |
| | | 1,000 VAC, 50/60 Hz for 1 minute across contacts of same pole | |
| | | 3,000 VAC, 50/60 Hz for 1 minute between contact sets, 2-pole non-latching | |
| | | 1,000 VAC, 50/60 Hz for 1 minute between set and reset coils of dual coil latching | |
| Vibration | Mechanical durability | 10 to 55 Hz; 1.50 mm (0.06) double amplitude | |
| | Malfunction durability | 10 to 55 Hz; 1.50 mm (0.06) double amplitude | |
| Shock | Mechanical durability | 1,000 m/s ² (approx. 100G) | |
| | Malfunction durability | 200 m/s ² (approx. 20 G) when energized 100 m/s ² (approx. 10 G) when de-energized | 500 m/s ² (approx. 50 G) at set 100 m/s ² (approx. 10 G) at reset |
| Ambient temperature | | -40 to 70°C (-40 to 158°F) | |
| Humidity | | 35% to 85% RH | |
| Service life | Mechanical | AC: 10,000,000 operations min. DC: 20,000,000 operations min. (at 18,000 operations/hour) | 10,000,000 operations min. (at 18,000 operations/hour) |
| | Electrical | See "Characteristics Data" | |
| Weight | | Approx. 17 g (0.60 oz.) | |

Note: Data shown are of initial value.

■ Characteristic Data

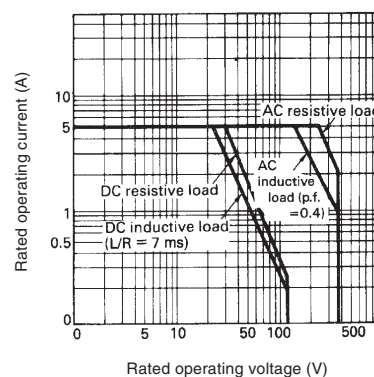
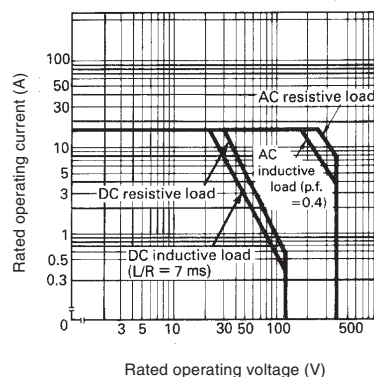
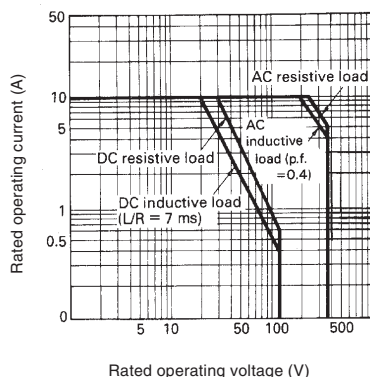
Maximum Switching Capacity - Non-latching Types

PCB: Single-pole general purpose
Semi-sealed

Plug-in: Single-pole single button
Quick-connect

High capacity

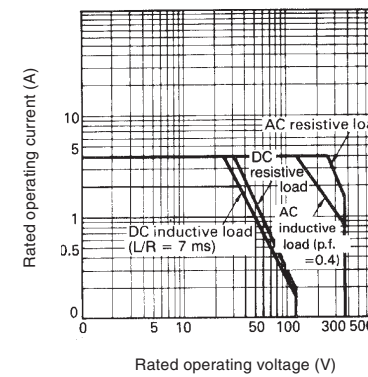
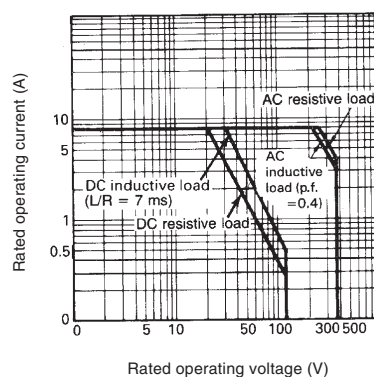
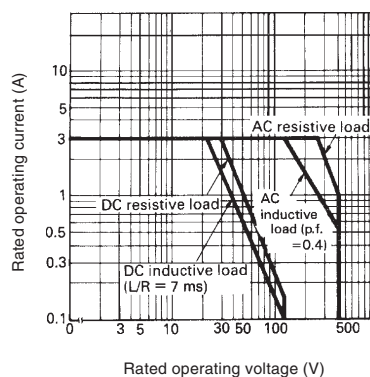
PCB: Single-pole high sensitivity
Two-pole general purpose
Plug-in: Two-pole single button



PCB: Two-pole high sensitivity

PCB: Single-pole general purpose
Sealed

PCB: Two-pole general purpose
Sealed



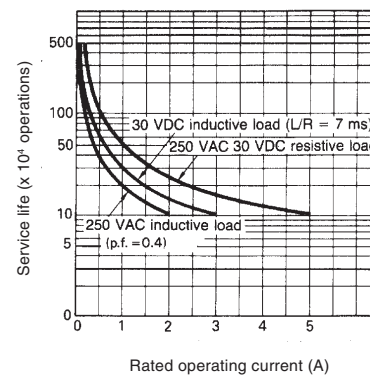
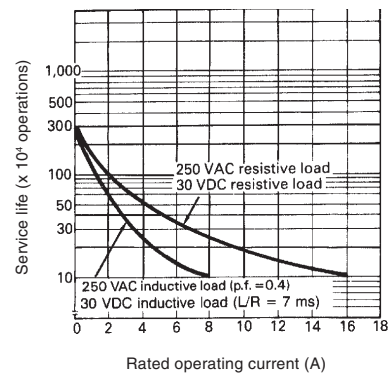
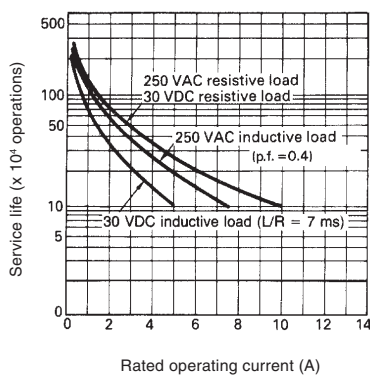
Electrical Service Life - Non-latching Types

PCB: Single-pole general purpose
Semi-sealed

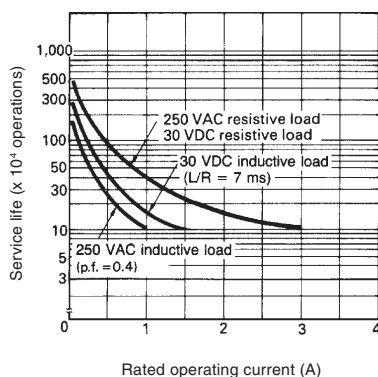
High capacity

PCB: Single-pole high sensitivity
Two-pole general purpose
Plug-in: Two-pole single button

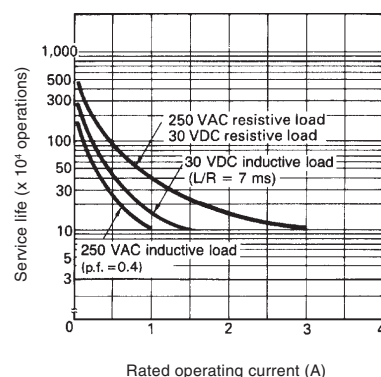
Plug-in: Single-pole single button
Quick connect



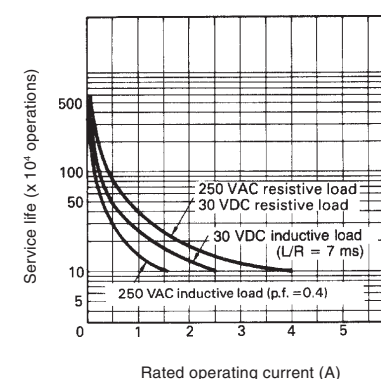
PCB: Two-pole high sensitivity



PCB: Single-pole general purpose Sealed

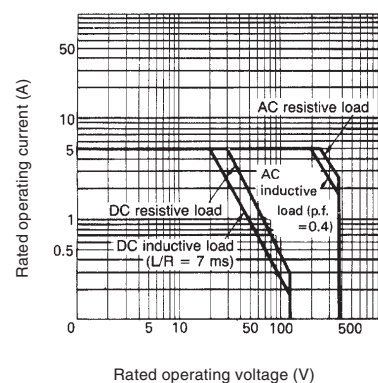


PCB: Two-pole general purpose Sealed

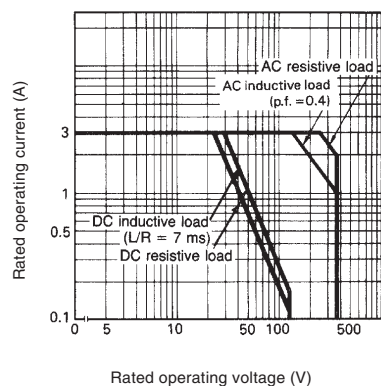


Maximum Switching Capacity - Latching Types

One pole

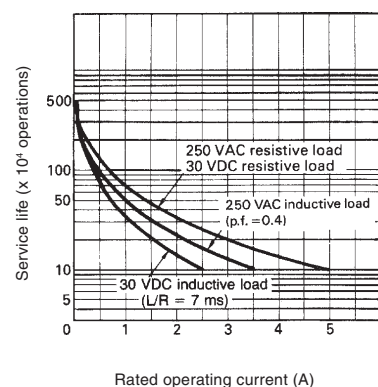


Two-pole



Electrical Service Life - Latching Types

One pole



Two-pole

