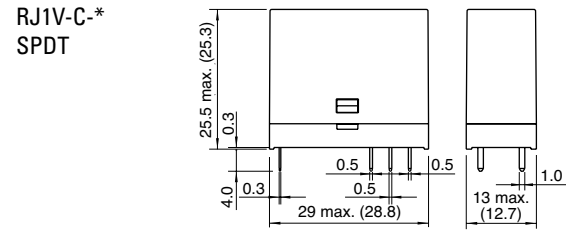
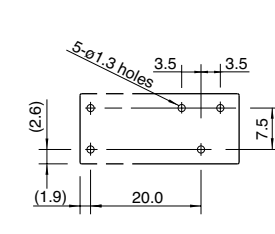


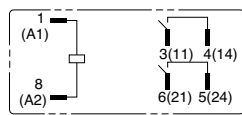
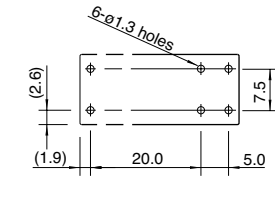
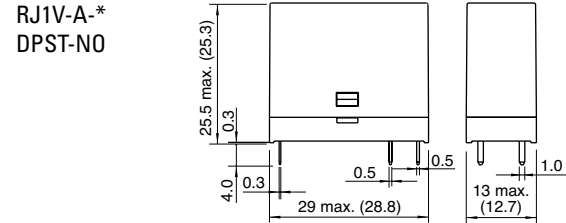
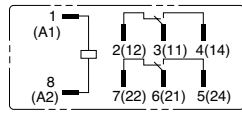
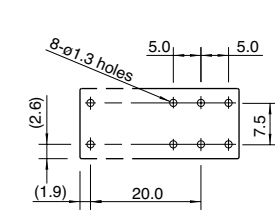
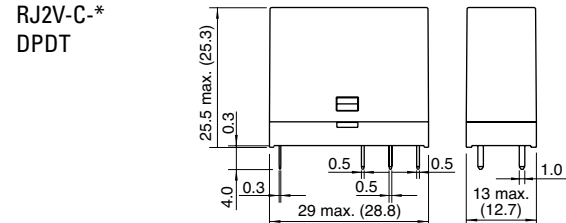
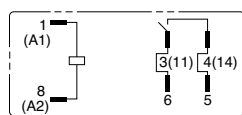
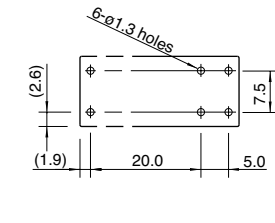
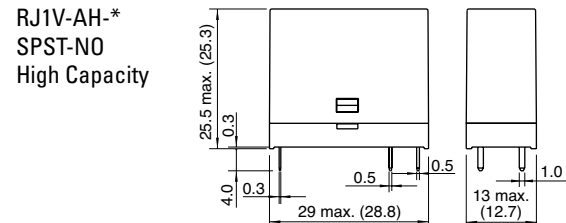
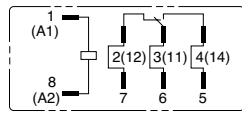
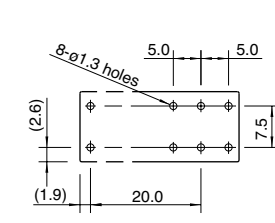
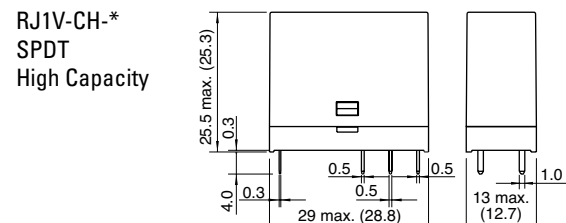
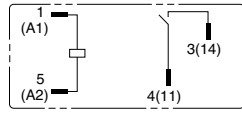
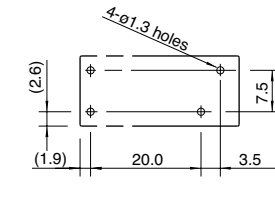
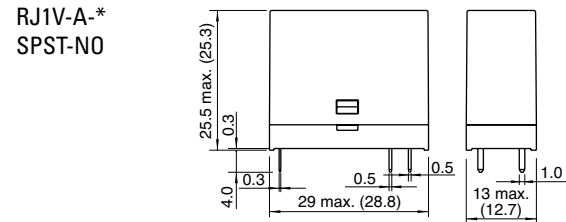
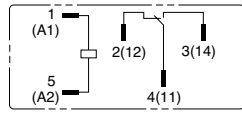
PCB Relay Dimensions (mm)



PCB Mounting Hole Layout (Bottom View)



PCB Internal Circuit Diagrams (Bottom View)



For more information on the these and other IDEC relays, visit: www.idec.com/relay

RJ Series Relays

- Features**
- Compact size:
Blade: 12.7 x 27 x 28.8 mm
PCB: 12.7 x 25.5 x 28.8 mm
 - Contact rating:
Blade: 8A (DPDT), 12A (SPDT)
PCB: 8A (DPDT & DPST-NO), 12A (SPDT & SPST-NO), 16A (SPDT & SPST-NO)
 - Operational life:
200K cycles at full resistive AC load;
50 million cycles, no load
 - Blade model has optional green, non-polarized LED
 - RoHS compliant



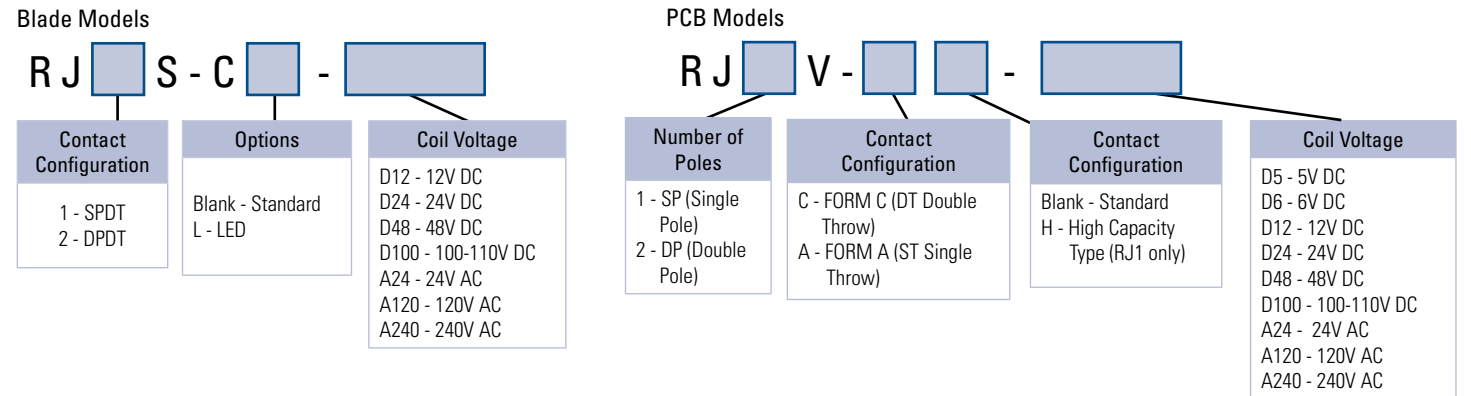
Specifications

| | Blade Models | | PCB Models | | |
|-----------------------------------|-------------------------------------|------|------------------------------------|----------------------|-------------------------|
| | RJ1S | RJ2S | RJ1V | RJ1V (High Capacity) | RJ2V |
| No. of poles | 1 | 2 | 1 | 1 | 2 |
| Contact Configuration | SPDT | DPDT | SPDT, SPST-NO | | DPDT, DPST-NO |
| Contact Rating | 12A | 8A | 12A | 16A | 8A |
| Contact Material | AgNi | | AgNi | AgSnIn | AgNi |
| Enclosure Ratings | - | | Flux protection | | |
| Contact Resistance | 50 milliohms max | | 50 milliohms max ^{Note 1} | | |
| Operating Time | 15ms max | | 15ms max ^{Note 2} | | |
| Release Time | 10ms max | | 10ms max ^{Note 2} | | |
| Dielectric Strength | Between contact & coil | | 5,000V AC, 1 minute | | |
| | Between contacts of same poles | | 1,000V AC, 1 minute | | |
| | Between contacts of different poles | | - | 3,000V AC, 1 min. | |
| Vibration Resistance | Damage limits | | 10-55Hz, amplitude 0.75mm | | |
| | Operating extremes | | 10-55Hz, amplitude 0.75mm | | |
| Shock Resistance | Damage limits | | 100m/s ² min (10G) | | |
| | Operating extremes | | 1,000m/s ² min (100G) | | |
| Mechanical Life | AC | | 30,000,000 operations | | |
| | DC | | 50,000,000 operations | | |
| Electrical Life @ Full Rated Load | AC | | 200,000 operations | | |
| | DC | | 100,000 operations | | |
| Operating Temperature | -40 to 70° C | | -40 to 70° C ^{Note 3} | | |
| Operating Humidity | 5 to 85% RH | | 5 to 85% RH | | |
| Dimensions (H x W x D mm) | 12.7 x 27 x 28.8 | | 12.7 x 25.5 x 28.8 | | |
| Weight (Approx.) | 19g | | SPDT: 17g, SPST-NO: 16g | | DPDT: 17g, DPST-NO: 16g |



Notes:
1. Measured using 5V DC, 1A voltage drop method.
2. Measured at the rated voltage (at 20°C), excluding contact bounce time.
3. 100% rated voltage.

Ordering Information



Contact Ratings

| | Type | Contact | Allowable Contact Power | | Rated Load | | | Allowable Switching Current | Allowable Switching Voltage | Minimum Applicable Load | |
|--------------|---------|--------------------|-------------------------|----------------|------------|----------------|-------------------------------------|-----------------------------|-----------------------------|-------------------------|--------|
| | | | Resistive Load | Inductive Load | Voltage | Resistive Load | Inductive Load cos_ =0.3 L/R=7ms | | | | |
| Blade Models | 1 pole | NO | AC3000V | AC1875VA | 250V AC | 12A | 7.5A | 6A | AC250V | DC5V | |
| | | NC | AC3000V | AC1875VA | 250V AC | 12A | 7.5A | 6A/3A | DC30V | 100mA | |
| | 2 poles | NO | AC2000V | AC1000VA | 250V AC | 8A | 4A | 4A | AC250V | DC5V | |
| | | NC | AC2000V | AC1000VA | 250V AC | 8A | 4A | 4A/2A | DC30V | 100mA | |
| PCB Models | 1 pole | Standard Type | NO | AC3000V | AC1875VA | AC250V | 12A | 7.5A | 12A | AC250V | DC5V |
| | | | NC | AC3000V | AC1875VA | AC250V | 12A | 7.5A | | | |
| | | | NO | DC360W | DC180W | DC30V | 12A | 6A | | | |
| | | High Capacity Type | NO | AC4000V | AC2000VA | AC250V | 16A | 8A | 16A | AC250V | DC5V |
| | | | NC | AC4000V | AC2000VA | AC250V | 16A | 8A | | | |
| | | | NO | DC480W | DC240W | DC30V | 16A | 8A | | | |
| | 2 poles | NO | NO | AC2000V | AC1000VA | AC250V | 8A | 4A | 8A | AC250V | DC5V |
| | | | NC | AC2000V | AC1000VA | AC250V | 8A | 4A | | | |
| | | | NO | DC240W | DC120W | DC30V | 8A | 4A | | | |
| | | NC | NO | AC2000V | AC1000VA | AC250V | 8A | 4A | 8A | AC250V | DC125V |
| | | | NC | AC2000V | AC1000VA | AC250V | 8A | 4A | | | |
| | | | NO | DC120W | DC60W | DC30V | 4A | 2A | | | |

Coil Ratings

| | Rated Voltage | Coil Voltage Code | Rated Current (mA) ±15% (at 20°C) | | | | Coil Resistance (ohms)±10% (at 20°C) | Operating Characteristics ² | | | Power Consumption | | | | | |
|----------|--------------------|-------------------|-----------------------------------|-----------|-----------------------|--------|--------------------------------------|--|-----------------|--|-------------------|--------------|------------|---------|---------|------|
| | | | Without LED ¹ | | With LED ¹ | | | Minimum Pickup Voltage | Dropout Voltage | Maximum Allowable Voltage ³ | | | | | | |
| | | | 50Hz | 60Hz | 50Hz | 60Hz | | | | | | | | | | |
| AC | Blade & PCB Models | 24V | A24 | 43.9 | 37.5 | 47.5 | 41.1 | 243 | 80% max | 30% min | 140% | 0.9VA (60Hz) | | | | |
| | | 120V | A120 | 8.8 | 7.5 | 8.7 | 7.4 | 6,400 | | | | | | | | |
| | | 240V | A240 | 4.3 | 3.7 | 4.3 | 3.7 | 25,570 | | | | | | | | |
| DC | Blade Models | 12V | D12 | 44.2 | 48.0 | 271 | 70% max | 10% min | 170% | 70% max | 10% min | 170% | 0.53W | | | |
| | | 24V | D24 | 22.1 | 25.7 | 1,080 | | | | | | | | | | |
| | | 48V | D48 | 11.0 | 10.7 | 4,340 | | | | | | | | | | |
| | | 100-110V | D100 | 5.3 - 5.8 | 5.2 - 5.7 | 18,870 | | | | | | | | | | |
| | | 5V | D5 | 106 | - | 47.2 | | | | | | | | 70% max | 10% min | 170% |
| | | 6V | D6 | 88.3 | - | 67.9 | | | | | | | | | | |
| | 12V | D12 | 44.2 | - | 271 | | | | | | | | | | | |
| | 24V | D24 | 22.1 | - | 1,080 | | | | | | | | | | | |
| | 48V | D48 | 11.0 | - | 4,340 | | | | | | | | | | | |
| | 100-110V | D100 | 5.3 - 5.8 | - | 18,870 | | | | | | | | | | | |
| | PCB Models | 5V | D5 | 106 | - | 47.2 | 70% max | 10% min | 170% | 70% max | 10% min | 170% | 0.53-0.64W | | | |
| | | 6V | D6 | 88.3 | - | 67.9 | | | | | | | | | | |
| 12V | | D12 | 44.2 | - | 271 | | | | | | | | | | | |
| 24V | | D24 | 22.1 | - | 1,080 | | | | | | | | | | | |
| 48V | | D48 | 11.0 | - | 4,340 | | | | | | | | | | | |
| 100-110V | | D100 | 5.3 - 5.8 | - | 18,870 | | | | | | | | | | | |

Notes:
 1. LED Indicator is only available on Blade relays.
 2. Operating characteristics are against rated values at 20°C.
 3. The maximum allowable voltage is the maximum value which can be applied to the relay coils.

Accessories

Socket Part Numbers

| Relay Type | Socket Type | Socket Part Number |
|--------------------|---------------------|--------------------|
| Blade Models | DIN Rail Standard | SJ1S-05B |
| | DIN Rail Fingersafe | SJ1S-07L |
| | PCB Mount | SJ1S-61 |
| | DIN Rail Standard | SJ2S-05B |
| RJ1S-□H (HC), RJ2S | DIN Rail Fingersafe | SJ2S-07L |
| | PCB Mount | SJ2S-61 |
| PCB Models | DIN Rail Fingersafe | SQ1V-07B* |
| | PCB Mount | SQ1V-63 |
| | DIN Rail Fingersafe | SQ2V-07B* |
| | PCB Mount | SQ2V-63 |

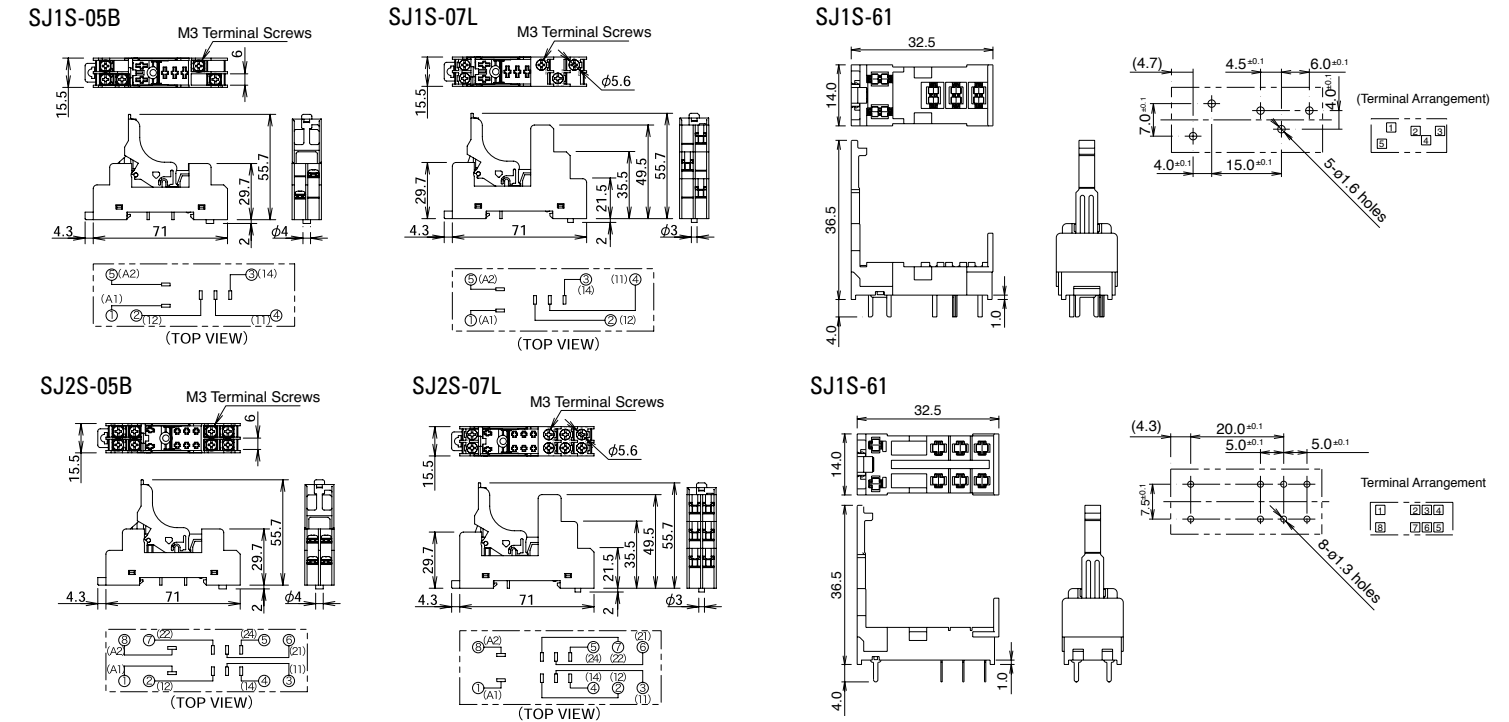
Socket Specifications

| | SJ1S | SJ2S |
|------------------------------|---------------------------|------|
| Rated Insulation Voltage | 250V AC/DC | |
| Applicable Wire | Max up to 2 - #14 AWG | |
| Applicable Crimping Terminal | 2mm ² x 2 | |
| Screw Size | M3 Slotted-Phillips screw | |
| Weight | 30g | 34g |

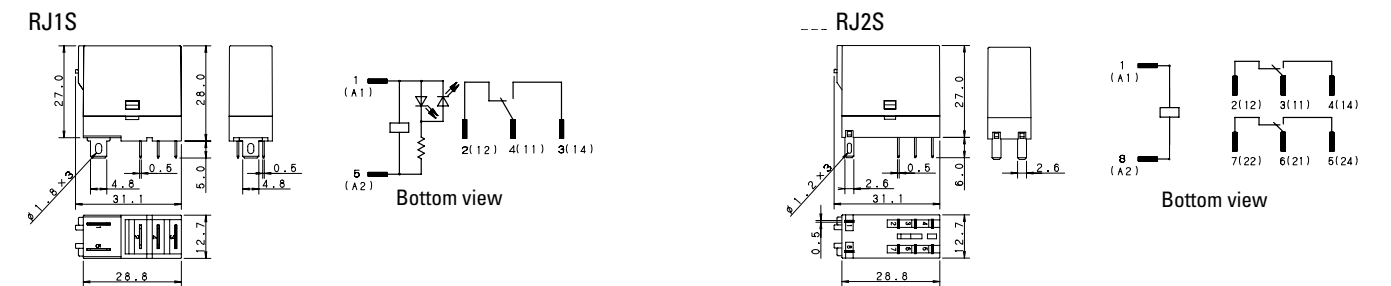


*Hold-down clip or spring must be removed to use with RJ relays.

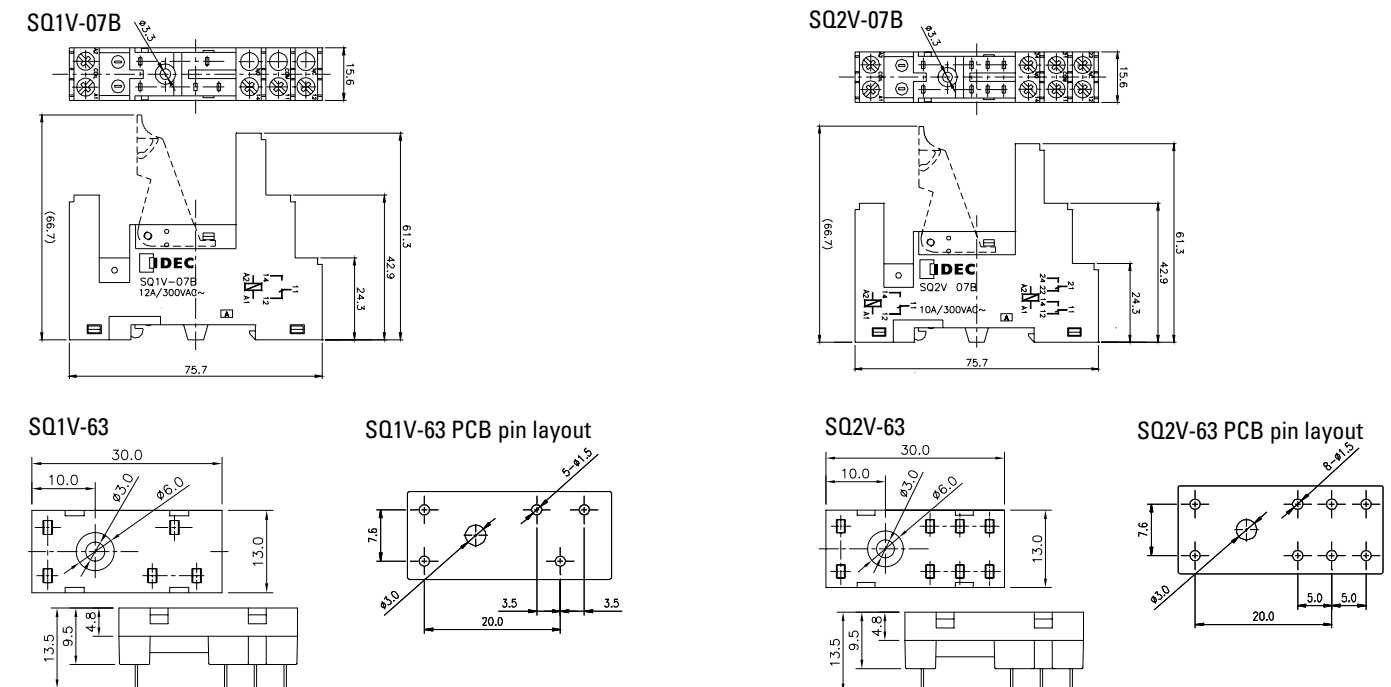
Socket Dimensions - for Blade Relays (mm)



Blade Relay Dimensions (mm)



SQ Socket Dimensions - for PCB Relays (mm)



Contact Ratings

| | Type | Contact | Allowable Contact Power | | Rated Load | | | Allowable Switching Current | Allowable Switching Voltage | Minimum Applicable Load | | |
|--------------|---------|--------------------|-------------------------|----------------|------------|----------------|-------------------------------------|-----------------------------|-----------------------------|-------------------------|--------|--------|
| | | | Resistive Load | Inductive Load | Voltage | Resistive Load | Inductive Load cos_ =0.3 L/R=7ms | | | | | |
| Blade Models | 1 pole | NO | AC3000V | AC1875VA | 250V AC | 12A | 7.5A | 6A | AC250V | DC5V | | |
| | | NC | AC3000V | AC1875VA | 250V AC | 12A | 7.5A | 6A/3A | DC30V | 100mA | | |
| | 2 poles | NO | AC2000V | AC1000VA | 250V AC | 8A | 4A | 4A | AC250V | DC5V | | |
| | | NC | AC2000V | AC1000VA | 250V AC | 8A | 4A | 4A/2A | DC30V | 100mA | | |
| PCB Models | 1 pole | Standard Type | NO | AC3000V | AC1875VA | AC250V | 12A | 7.5A | 12A | AC250V | DC5V | |
| | | | NC | AC3000V | AC1875VA | AC250V | 12A | 7.5A | | | | |
| | | | NO | DC360W | DC180W | DC30V | 12A | 6A | | | | |
| | | High Capacity Type | NO | AC4000V | AC2000VA | AC250V | 16A | 8A | | 16A | AC250V | DC5V |
| | | | NC | AC4000V | AC2000VA | AC250V | 16A | 8A | | | | |
| | | | NO | DC480W | DC240W | DC30V | 16A | 8A | | | | |
| | 2 poles | NO | NO | AC2000V | AC1000VA | AC250V | 8A | 4A | 8A | AC250V | DC5V | |
| | | | NC | AC2000V | AC1000VA | AC250V | 8A | 4A | | | | |
| | | | NO | DC240W | DC120W | DC30V | 8A | 4A | | | | |
| | | NC | NO | AC2000V | AC1000VA | AC250V | 8A | 4A | | 8A | AC250V | DC125V |
| | | | NC | AC2000V | AC1000VA | AC250V | 8A | 4A | | | | |
| | | | NO | DC120W | DC60W | DC30V | 4A | 2A | | | | |

Coil Ratings

| | Rated Voltage | Coil Voltage Code | Rated Current (mA) ±15% (at 20°C) | | | | Coil Resistance (ohms)±10% (at 20°C) | Operating Characteristics ² | | | Power Consumption | | | | | | | | | | |
|----|--------------------|-------------------|-----------------------------------|-----------|-----------------------|--------|--------------------------------------|--|-----------------|--|-------------------|--------------|-------|------|---------|---------|------|---------|---------|------|------------|
| | | | Without LED ¹ | | With LED ¹ | | | Minimum Pickup Voltage | Dropout Voltage | Maximum Allowable Voltage ³ | | | | | | | | | | | |
| | | | 50Hz | 60Hz | 50Hz | 60Hz | | | | | | | | | | | | | | | |
| AC | Blade & PCB Models | 24V | A24 | 43.9 | 37.5 | 47.5 | 41.1 | 243 | 80% max | 30% min | 140% | 0.9VA (60Hz) | | | | | | | | | |
| | | 120V | A120 | 8.8 | 7.5 | 8.7 | 7.4 | 6,400 | | | | | | | | | | | | | |
| | | 240V | A240 | 4.3 | 3.7 | 4.3 | 3.7 | 25,570 | | | | | | | | | | | | | |
| DC | Blade Models | 12V | D12 | 44.2 | 48.0 | 271 | 70% max | 10% min | 170% | 70% max | 10% min | 170% | 0.53W | | | | | | | | |
| | | 24V | D24 | 22.1 | 25.7 | 1,080 | | | | | | | | | | | | | | | |
| | | 48V | D48 | 11.0 | 10.7 | 4,340 | | | | | | | | | | | | | | | |
| | | 100-110V | D100 | 5.3 - 5.8 | 5.2 - 5.7 | 18,870 | | | | | | | | | | | | | | | |
| | | PCB Models | 5V | D5 | 106 | - | | | | | | | | 47.2 | 70% max | 10% min | 170% | 70% max | 10% min | 170% | 0.53-0.64W |
| | | | 6V | D6 | 88.3 | - | | | | | | | | 67.9 | | | | | | | |
| | 12V | | D12 | 44.2 | - | 271 | | | | | | | | | | | | | | | |
| | 24V | | D24 | 22.1 | - | 1,080 | | | | | | | | | | | | | | | |
| | 48V | | D48 | 11.0 | - | 4,340 | | | | | | | | | | | | | | | |
| | 100-110V | | D100 | 5.3 - 5.8 | - | 18,870 | | | | | | | | | | | | | | | |

Notes:
 1. LED Indicator is only available on Blade relays.
 2. Operating characteristics are against rated values at 20°C.
 3. The maximum allowable voltage is the maximum value which can be applied to the relay coils.

Accessories

Socket Part Numbers

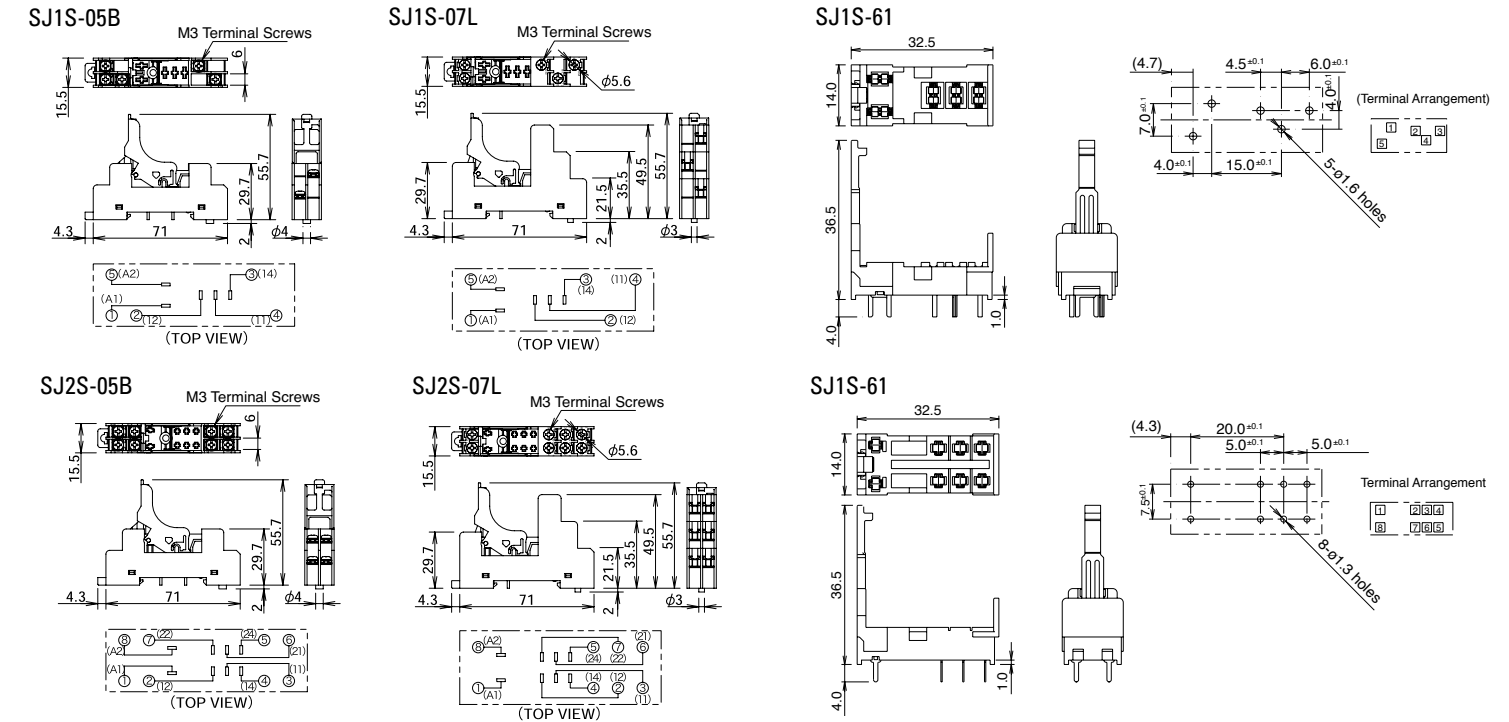
| Relay Type | Socket Type | Socket Part Number |
|--------------------|---------------------|--------------------|
| Blade Models | DIN Rail Standard | SJ1S-05B |
| | DIN Rail Fingersafe | SJ1S-07L |
| | PCB Mount | SJ1S-61 |
| | DIN Rail Standard | SJ2S-05B |
| RJ1S-□H (HC), RJ2S | DIN Rail Fingersafe | SJ2S-07L |
| | PCB Mount | SJ2S-61 |
| PCB Models | DIN Rail Fingersafe | SQ1V-07B* |
| | PCB Mount | SQ1V-63 |
| | DIN Rail Fingersafe | SQ2V-07B* |
| | PCB Mount | SQ2V-63 |

Socket Specifications

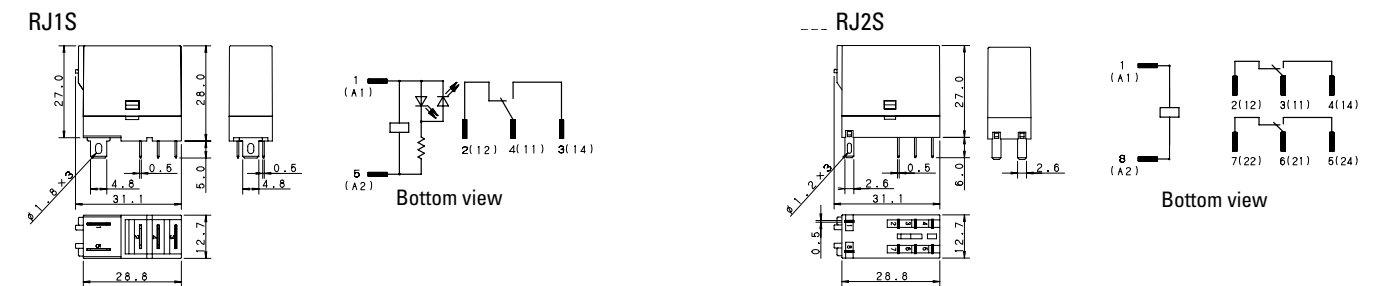
| | SJ1S | SJ2S |
|------------------------------|---------------------------|------|
| Rated Insulation Voltage | 250V AC/DC | |
| Applicable Wire | Max up to 2 - #14 AWG | |
| Applicable Crimping Terminal | 2mm ² x 2 | |
| Screw Size | M3 Slotted-Phillips screw | |
| Weight | 30g | 34g |



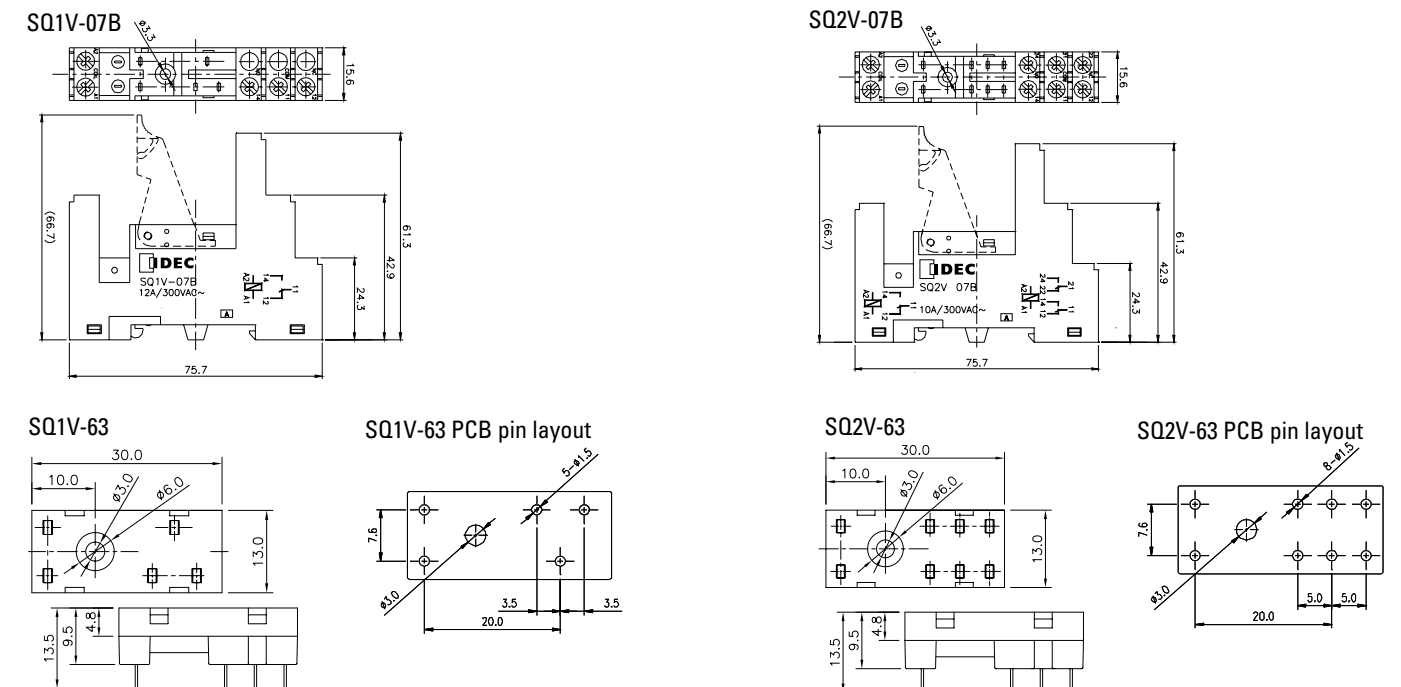
Socket Dimensions - for Blade Relays (mm)



Blade Relay Dimensions (mm)



SQ Socket Dimensions - for PCB Relays (mm)



*Hold-down clip or spring must be removed to use with RJ relays.

PCB Relay Dimensions (mm)

PCB Mounting Hole Layout (Bottom View)

PCB Internal Circuit Diagrams (Bottom View)

| | |
|---|--|
| <p>RJ1V-C-* SPDT</p> | |
| <p>RJ1V-A-* SPST-NO</p> | |
| <p>RJ1V-CH-* SPDT High Capacity</p> | |
| <p>RJ1V-AH-* SPST-NO High Capacity</p> | |
| <p>RJ2V-C-* DPDT</p> | |
| <p>RJ1V-A-* DPST-NO</p> | |

For more information on the these and other IDEC relays, visit: www.idec.com/relay

RJ Series Relays

- Features**
- Compact size:
Blade: 12.7 x 27 x 28.8 mm
PCB: 12.7 x 25.5 x 28.8 mm
 - Contact rating:
Blade: 8A (DPDT), 12A (SPDT)
PCB: 8A (DPDT & DPST-NO), 12A (SPDT & SPST-NO), 16A (SPDT & SPST-NO)
 - Operational life:
200K cycles at full resistive AC load;
50 million cycles, no load
 - Blade model has optional green, non-polarized LED
 - RoHS compliant



Specifications

| | Blade Models | | PCB Models | |
|-----------------------------------|-------------------------------------|------|---|-----------------------------|
| | RJ1S | RJ2S | RJ1V | RJ1V (High Capacity) / RJ2V |
| No. of poles | 1 | 2 | 1 | 1 / 2 |
| Contact Configuration | SPDT | DPDT | SPDT, SPST-NO | DPDT, DPST-NO |
| Contact Rating | 12A | 8A | 12A | 16A / 8A |
| Contact Material | AgNi | | AgNi | AgSnIn / AgNi |
| Enclosure Ratings | - | | Flux protection | |
| Contact Resistance | 50 milliohms max | | 50 milliohms max ^{Note 1} | |
| Operating Time | 15ms max | | 15ms max ^{Note 2} | |
| Release Time | 10ms max | | 10ms max ^{Note 2} | |
| Dielectric Strength | Between contact & coil | | 5,000V AC, 1 minute | |
| | Between contacts of same poles | | 1,000V AC, 1 minute | |
| | Between contacts of different poles | | - / 3,000V AC, 1 min. | |
| Vibration Resistance | Damage limits | | 10-55Hz, amplitude 0.75mm | |
| | Operating extremes | | 10-55Hz, amplitude 0.75mm | |
| Shock Resistance | Damage limits | | 100m/s ² min (10G) | |
| | Operating extremes | | 1,000m/s ² min (100G) | |
| Mechanical Life | AC | | 30,000,000 operations | |
| | DC | | 50,000,000 operations | |
| Electrical Life @ Full Rated Load | AC | | 200,000 operations | |
| | DC | | 100,000 operations | |
| Operating Temperature | -40 to 70° C | | -40 to 70° C ^{Note 3} | |
| Operating Humidity | 5 to 85% RH | | 5 to 85% RH | |
| Dimensions (H x W x D mm) | 12.7 x 27 x 28.8 | | 12.7 x 25.5 x 28.8 | |
| Weight (Approx.) | 19g | | SPDT: 17g, SPST-NO: 16g / DPDT: 17g, DPST-NO: 16g | |



Notes:
1. Measured using 5V DC, 1A voltage drop method.
2. Measured at the rated voltage (at 20°C), excluding contact bounce time.
3. 100% rated voltage.

Ordering Information

Blade Models

RJ S - C -

| Contact Configuration | Options | Coil Voltage |
|-----------------------|-----------------------------|--|
| 1 - SPDT 2 - DPDT | Blank - Standard L - LED | D12 - 12V DC D24 - 24V DC D48 - 48V DC D100 - 100-110V DC A24 - 24V AC A120 - 120V AC A240 - 240V AC |

PCB Models

RJ V - - -

| Number of Poles | Contact Configuration | Contact Configuration | Coil Voltage |
|--|--|---|--|
| 1 - SP (Single Pole) 2 - DP (Double Pole) | C - FORM C (DT Double Throw) A - FORM A (ST Single Throw) | Blank - Standard H - High Capacity Type (RJ1 only) | D5 - 5V DC D6 - 6V DC D12 - 12V DC D24 - 24V DC D48 - 48V DC D100 - 100-110V DC A24 - 24V AC A120 - 120V AC A240 - 240V AC |