Series JWS
Internationally Approved Rockers

Series JWS Internationally Approved Rockers

General Specifications

Electrical Capacity (Resistive Load)

<table>
<thead>
<tr>
<th>Power Level</th>
<th>AC Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10A</td>
<td>@ 125/250V</td>
</tr>
<tr>
<td>6A</td>
<td>@ 125/250V</td>
</tr>
<tr>
<td>5A (3A)</td>
<td>@ 125/250V</td>
</tr>
</tbody>
</table>

Other Ratings

- Contact Resistance: 10 milliohms maximum
- Insulation Resistance: 500 megohms minimum @ 500V DC
- Dielectric Strength: 2,000V AC minimum between contacts for 1 minute minimum; 4,000V AC minimum between contacts & case for 1 minute minimum
- Mechanical Life: 30,000 operations minimum
- Electrical Life: 10,000 operations minimum
- Nominal Operating Force: Single Pole 3.92N & Double Pole 5.39N
- Angle of Throw: 30°

Materials & Finishes

- Rocker: Polyamide (UL94V-2)
- Housing/Case: Polyamide (UL94V-0)
- Movable Contactor: Copper with silver plating
- Movable Contacts: Silver alloy
- Stationary Contacts: Silver alloy
- End Terminals: Brass with silver plating
- Common Terminals: Copper with silver plating
- Lamp Terminals: Phosphor bronze with tin plating (illuminated models only)

Environmental Data

Operating Temp Range: -25°C through +70°C (-13°F through +158°F) for nonilluminated models; -25°C through +50°C (-13°F through +122°F) for illuminated models

- Humidity: 90 ~ 95% humidity for 96 hours @ 40°C (104°F)
- Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 15 minutes; 3 right angled directions for 2 hours
- Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
- Sealing: Dust resistant inner seal

Installation

- Cleaning: These devices are not process sealed. Hand cleaning locally using alcohol based solution.

Standards & Certifications

- Flammability Standards: UL94V-2 for rocker
- UL: File No. E44145
- CSA: File No. 023535_0_000
- VDE: License No. 119153

www.nkkswitches.com

04/19/22
Distinctive Characteristics

Rocker caps and housing available in a variety of colors.

Protective barrier available to prevent accidental actuation.

Constructed for dust resistance with interior cover of polyamide between actuator and contact area.

Easy, crisp actuation.

Small size well suited for telecommunication, measuring, automation, and consumer applications.

Terminals are molded in to lock out flux, dust, and other contaminants.

Outer case of heat resistant resin meets UL94V-0 flammability standard.
# Series JWS

## Internationally Approved Rockers

### TYPICAL SWITCH ORDERING EXAMPLE

<table>
<thead>
<tr>
<th>Rating</th>
<th>Barrier Types</th>
<th>Spot Illumination</th>
<th>Cap Colors</th>
<th>Barrier Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>10A @ 125/250V AC</td>
<td>R: No Barrier</td>
<td>No Code</td>
<td>A: Black</td>
<td>A: Black</td>
</tr>
<tr>
<td>6A @ 125/250V AC (UL/CSA)</td>
<td>B: With Barrier</td>
<td>C: Red LED</td>
<td>* B: Ivory</td>
<td>* B: Ivory</td>
</tr>
<tr>
<td>5A (3A) @ 125/250V AC (VDE)</td>
<td></td>
<td>D: Amber LED</td>
<td>C: Red</td>
<td>* For Nonilluminated only</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Poles</th>
<th>Cap Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A: Black</td>
</tr>
<tr>
<td>2</td>
<td>* B: Ivory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Housing Colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A: Black</td>
</tr>
<tr>
<td>2</td>
<td>* B: Ivory</td>
</tr>
</tbody>
</table>

**IMPORTANT:**
cULus & VDE markings are standard on all models. Models & specific ratings are noted on General Specifications page.

---

### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

**JWS21RAA**

- Black Rocker Cap
- DPST ON-NONE-OFF Circuit
- Black Housing/No Barrier

---

www.nkkswitches.com
Internationally Approved Rockers

Series JWS

RATING

| 10A @ 125/250V AC | 6A @ 125/250V AC (UL/CSA) | 5A (3A) @ 125/250V AC (VDE) |

POLES & CIRCUITS

<table>
<thead>
<tr>
<th>Pole</th>
<th>Model</th>
<th>Connected Terminals</th>
<th>Throw &amp; Schematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>JWS11</td>
<td>Down 2-3 Center OPEN Up OPEN</td>
<td>SPST</td>
</tr>
<tr>
<td>DP</td>
<td>JWS21</td>
<td>Down 1-3 Center 4-6 Up OPEN OPEN</td>
<td>DPST</td>
</tr>
</tbody>
</table>

BARRIER TYPES & COLORS

- **R**: No Barrier
  - No-barrier type has a flat flange which is an integral part of the switch.

- **B**: With Barrier
  - Barrier Material: Polyamide
  - Finish: Matte
  - Barrier AT219 is factory assembled.
  - Dimensions for barrier are shown in the Accessories section.

  Barrier Color Available: **A** Black

CAP COLORS

- Cap Material: Polyamide
- Finish: Matte
- Rocker cap is an integral part of the switch and not available separately.
  - * Ivory for nonilluminated models only.

  Cap Colors Available:
  - **A** Black
  - **B** *Ivory*
  - **C** Red

HOUSING

- Material: Polyamide
- Finish: Matte
- Colors Available:
  - **A** Black
  - **B** Ivory (for nonilluminated models only)

TERMINALS

- Solder Lug/.187” (4.75mm) Quick Connect
  - Switch assembly with connectors is not UL, CSA, C-UL, or VDE approved.

- Lamp (spot illuminated models only)

www.nkkswitches.com
LED COLORS & SPECIFICATIONS FOR SPOT ILLUMINATED MODELS

LEDs are supplied as an integral part of illuminated devices and are not available separately. LED polarity markings are on the bottom of the switch.

The electrical specifications shown here are determined at a basic temperature of 25°C.

If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula in the Supplement section.

<table>
<thead>
<tr>
<th>Color</th>
<th>C</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>30mA</td>
<td>20mA</td>
<td>30mA</td>
</tr>
<tr>
<td>Amber</td>
<td>10mA</td>
<td>20mA</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>1.8V</td>
<td>2.0V</td>
<td>2.1V</td>
</tr>
<tr>
<td>Maximum Forward Current $I_{FM}$</td>
<td>5V</td>
<td>5V</td>
<td></td>
</tr>
<tr>
<td>Typical Forward Current $I_f$</td>
<td>No Current Reduction Rate Within Specified Operating Temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Voltage $V_f$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Reverse Voltage $V_{RM}$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Reduction Rate Above 25°C $\Delta I_f$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature Range</td>
<td>$-25°C ~ +50°C$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PANEL CUTOUT & PANEL THICKNESS RANGES

Panel Thickness Ranges:

Without Barrier:

.030" ~ .079" (0.75mm ~ 2.0mm)

With Barrier:

.024" ~ .059" (0.6mm ~ 1.5mm)

TYPICAL SWITCH DIMENSIONS

Nonilluminated • No Barrier

Single Pole

Nonilluminated • No Barrier

Double Pole

DPST models have IEC symbols for On-Off on the flange.
Internationally Approved Rockers

Series JWS

TYPICAL SWITCH DIMENSIONS

Single Pole

Nonilluminated • With Barrier

Double Pole

Nonilluminated • With Barrier

DPST models have IEC symbols for On-Off on the flange.

Single Pole

Spot Illuminated • No Barrier

Single Pole

Spot Illuminated • With Barrier

www.nkkswitches.com

B55