# Rotary Switches

## Product Selection Guide

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<th>A</th>
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<th>RW</th>
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<tr>
<td>Switch Type</td>
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<td>Subminiature Rotary</td>
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<tr>
<td>Screwdriver Slot</td>
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<td>Power</td>
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<td>Slot</td>
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<tr>
<td>Maximum Current</td>
<td>2.5 Amps</td>
<td>150 mA</td>
<td>6 Amps</td>
<td>5 Amps</td>
<td>4 Amps</td>
<td>12 Amps</td>
<td>0.1 A 10mA</td>
<td>0.5 Amps</td>
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<tr>
<td>Poles</td>
<td>1-4</td>
<td>1-4</td>
<td>1 &amp; 2</td>
<td>1 &amp; 2</td>
<td>1 &amp; 2</td>
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<tr>
<td>Indexing</td>
<td>30°, 45°, 90°</td>
<td>22.5°, 30°, 36°</td>
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<td>Non-shorting/Shorting Contacts</td>
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<td>Solder Lug</td>
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<tr>
<td>Wire Lead</td>
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<td>Quick Connect</td>
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<td>PC</td>
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</tr>
</tbody>
</table>

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

www.ckswitches.com
Models Available

A Series

1-4 Pole Rotary Switches

Features/Benefits

• Multi-pole and multi-position
• Positive detent
• Shorting & non-shorting contacts
• Panel and PCB mounting
• RoHS Compliant

Typical Applications

• Automotive
• Major and small appliances
• Industrial equipment

Specifications

CONTACT RATING: Q contact material: Switch - 2.5 AMPS @ 125 V AC; 350 mA @ 125 V DC (UL/CSA). Carry - 5 AMPS continuous. See page K-6 for additional ratings.

ELECTRICAL LIFE: 15,000 make-and-break cycles at full load up to 300,000 detent operations.

CONTACT RESISTANCE: Below 20 m Ω typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10 6 Ω min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING & STORAGE TEMPERATURE: -30ºC to 85ºC

NOTE: Any models supplied with Q, B or G contact material are RoHS compliant.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Materials

HOUSING & BUSHING: Glass filled 6/6 nylon (UL 94V-0).

ACTUATOR: Glass filled 6/6 nylon (UL 94V-0).

MOVABLE CONTACTS: Q contact material: Coin silver, silver plated. See page K-6 for additional contact materials.

STATIONARY CONTACTS & TERMINALS: Q contact material: Brass, silver plated. See page K-6 for additional contact materials.


TERMINAL SEAL: Epoxy.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K–4 through K–7. For additional options not shown in catalog, consult Customer Service Center.

Switch Function

A100 SP, 30° Index, 12 pos. no stops
A102 SPDT, 30° Index
A103 SP, 30° Index, 3 pos.
A104 SP, 30° Index, 4 pos.
A105 SP, 30° Index, 5 pos.
A106 SP, 30° Index, 6 pos.
A107 SP, 30° Index, 7 pos.
A108 SP, 30° Index, 8 pos.
A109 SP, 30° Index, 9 pos.
A110 SP, 30° Index, 10 pos.
A112 SP, 30° Index, 12 pos.
A114 SP, 90° Index, 2 pos.
A115 SP, 45° Index, 3 pos.
A124 SP, 90° Index, 4 pos.
A125 SP, 45° Index, 8 pos.
A203 DP, 30° Index, 3 pos.
A204 DP, 30° Index, 4 pos.
A205 DP, 30° Index, 5 pos.
A206 DP, 30° Index, 6 pos.
A214 DP, 90° Index, 2 pos.
A303 3P, 30° Index, 3 pos.
A304 3P, 30° Index, 4 pos.
A402 4PDT, 30° Index
A403 4P, 30° Index, 3 pos

Actuator

15 1.500" high, flatted
03 .375" high, flatted
05 .500" high, flatted
14 1.500" high, flatted
42 1.654" high, metric
S1 Screwdriver Slot

Mounting Style

R 3/8-32 threaded
M M10 x .75 metric

Shorting/Non-shorting Contacts

N Non-shorting contacts
S Shorting contacts
(Not available with models A114, A124 & A214)

Terminations

Z Solder lug
C PC Thru-hole
MC Modular base

Contact Material

Q Silver
B Gold
G Gold over silver

Seal

NONE No seal
E Epoxy seal
F Splashproof bushing seal
K Epoxy & splashproof bushing seal

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

www.ckswitches.com
# A Series
## 1-4 Pole Rotary Switches

### SWITCH FUNCTION

#### 30° INDEXING

<table>
<thead>
<tr>
<th>POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>A100</td>
<td>12 Position</td>
<td>A.1-12</td>
</tr>
<tr>
<td></td>
<td>A102</td>
<td>SPDT</td>
<td>A.1.2&quot;</td>
</tr>
<tr>
<td></td>
<td>A103</td>
<td>3 Position</td>
<td>A.1-3'</td>
</tr>
<tr>
<td></td>
<td>A104</td>
<td>4 Position</td>
<td>A.1-4'</td>
</tr>
<tr>
<td></td>
<td>A105</td>
<td>5 Position</td>
<td>A.1-5'</td>
</tr>
<tr>
<td></td>
<td>A106</td>
<td>6 Position</td>
<td>A.1-6'</td>
</tr>
<tr>
<td></td>
<td>A107</td>
<td>7 Position</td>
<td>A.1-7</td>
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<tr>
<td></td>
<td>A108</td>
<td>8 Position</td>
<td>A.1-8</td>
</tr>
<tr>
<td></td>
<td>A109</td>
<td>9 Position</td>
<td>A.1-9</td>
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<tr>
<td></td>
<td>A110</td>
<td>10 Position</td>
<td>A.1-10</td>
</tr>
<tr>
<td></td>
<td>A112</td>
<td>12 Position</td>
<td>A.1-12</td>
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#### 45° INDEXING

<table>
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<tr>
<th>POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>A115</td>
<td>3 Position</td>
<td>A.1.2,4&quot;</td>
</tr>
<tr>
<td></td>
<td>A125</td>
<td>8 Position</td>
<td>A.1.2,4,5,7,8,10,11</td>
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</tbody>
</table>

#### 90° INDEXING

<table>
<thead>
<tr>
<th>POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>A114</td>
<td>2 Position</td>
<td>A.1.4&quot;</td>
</tr>
<tr>
<td></td>
<td>A124</td>
<td>4 Position</td>
<td>A.1.4,7,10</td>
</tr>
</tbody>
</table>

#### TERMINAL NUMBERS

Terminal numbers molded on bottom of housing.

### 3P MODELS

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<tr>
<th>MODEL NO.</th>
<th>TERMINALS</th>
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</thead>
<tbody>
<tr>
<td>A103</td>
<td>A,B,C,1-3,5,7,9-11</td>
</tr>
<tr>
<td>A104</td>
<td>A,C,1-4,7,10</td>
</tr>
<tr>
<td>A105</td>
<td>A,C,1-5,7-11</td>
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</tbody>
</table>

### 4P MODELS

<table>
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<th>MODEL NO.</th>
<th>TERMINALS</th>
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<tr>
<td>A114</td>
<td>A,1,2,4,5,7,8,10,11</td>
</tr>
<tr>
<td>A124</td>
<td>A,1,4,7,10</td>
</tr>
</tbody>
</table>

**NOTE:** These models with ‘C’ or ‘MC’ terminations have additional terminal no. 9 as switch support only. This terminal is not connected electrically inside switch.

All models, with all options when ordered with ‘G’ or ‘Q’ contact material, see page K-6.

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change.

www.ckswitches.com
A Series
1-4 Pole Rotary Switches

**ACTUATOR**

- **15**: 1.500" HIGH
- **03**: .75" HIGH
- **05**: .500" HIGH
- **14**: 1.500" HIGH
- **42**: 1.654" METRIC
- **S1**: SCREWDRIVER SLOT

**MOUNTING STYLE**

- **R**: 3/8-32 THREAD
- **M**: M10 x .75 METRIC

**TYPICAL INSTALLATION**

- Maximum force to push on knob should not exceed 10 lbs.
- Install switch with stop ring (if used) and lockwasher in back of panel. Tighten hex nut from front of panel.
- On PC mounted switches, use hex nut and lockwasher to hold stop ring in place.
- Actuation torque: 8-16 oz./in.
- Maximum torque: 30 oz./in.

**SHORTING/NON-SHORTING CONTACTS**

- **N**: NON-SHORTING CONTACTS (break-before-make)
- **S**: SHORTING CONTACTS (make-before-break)

**NOTE:** 'S' shorting contacts are not available with A114, A124 and A214 models.
A Series
1-4 Pole Rotary Switches

TERMINATIONS

Z SOLDER LUG

C PC THRU-HOLE

MC MODULAR BASE (for wave soldering)

NOTE: Switches with 'C' or 'MC' terminations have additional terminal no. 9 as switch support only. This terminal is not connected electrically inside switch. Solder and clean switch base on PC board with other components, then snap on housing/actuator assembly. See page K-7 for installation instructions.

CONTACT MATERIAL

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT AND TERMINAL MATERIAL</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>SILVER²</td>
<td>SWITCH-2.5 AMPS @ 125 V AC; 350 mA @ 125V DC (UL/CSA). CARRY-5 AMPS CONTINUOUS.</td>
</tr>
<tr>
<td>B</td>
<td>GOLD¹</td>
<td>0.4 VA MAX. @ 20 V AC or DC MAX</td>
</tr>
<tr>
<td>G</td>
<td>GOLD OVER SILVER³</td>
<td>0.4 VA MAX. @ 20 V AC or DC MAX or SWITCH-2.5 AMPS @ 125 V AC; 350 mA @ 125 V DC (UL/CSA). CARRY-5 AMPS CONTINUOUS.</td>
</tr>
</tbody>
</table>

¹ MOVABLE CONTACTS: Copper alloy, with gold plate over nickel plate. STATIONARY CONTACTS & TERMINALS: Brass, with gold plate over nickel plate.
² MOVABLE CONTACTS: Coin silver, silver plated. STATIONARY CONTACTS & TERMINALS: Brass, silver plated (standard with all termination options).
³ MOVABLE CONTACTS: Coin silver, with gold plate over nickel plate over silver plate. STATIONARY CONTACTS & TERMINALS: Brass, with gold plate over nickel plate over silver plate.

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

NOTE: Any models supplied with Q, B or G contact material are RoHS compliant.

All models ☑ with all options when ordered with 'G' or 'Q' contact material.

NOTE: 'G' contact material is equivalent to both 'B' and 'Q' contact materials.

Dimensions are shown: [inch (mm)]
Specifications and dimensions subject to change.

Third Angle Projection

www.ckswitches.com
Setting Stops on A112 and A125 Models

The number of switch positions is adjustable on A112 and A125 models only by means of a stop ring provided with each switch. The number of positions is pre-set on all other models and the stop ring is factory installed.

To set stops: Turn shaft fully counter-clockwise and insert stop ring tab in desired hole. Install lockwasher and nut to retain stop ring for both PC and panel mounting. Switch without stop ring has 12 positions.

Soldering, Cleaning and Assembly Instructions for ‘MC’ Termination Option

Soldering
1. Insert switch base only into PC board.
2. Do not bend terminals.
3. Wave soldering recommended at 500°F solder temperature.
4. Hand solder at 500°F, 10 sec. max./terminal.

Cleaning
1. Flux clean using vapor degreaser and forced rinse or triple bath method.
2. Do not allow switch base to ‘trap’ fluids.
3. Freon TMC, TF or Methylene Chloride give excellent results.

Switch Assembly
1. Hold housing/ shaft assembly by housing. Remove protective cap by squeezing tabs and discard. (FIG. 1)
2. Do not push on switch shaft. Detent mechanism will come apart.
3. While holding switch housing, align locating tab on base with notch on housing and engage 4 housing latches in slots on base. (FIG. 2)
4. Push firmly on housing until latches snap in place.
5. Remove clip from shaft and discard. Assembly is complete. (FIG. 3)

AVAILABLE HARDWARE

Stop ring

PART NO.
767B00201

Material: Brass
Finish: Nickel plated
RTA Series
1–4 Poles Coded Rotary Switches

**Features/Benefits**
- PCB or hand soldering versions
- Bushing mounting
- Multiple poles
- Decimal and hexadecimal codes
- Screwdriver slot or extended actuator
- RoHS Compliant

**Typical Applications**
- Appliances
- Electronic alarm systems
- Medical
- Building automation
- HVAC air conditioning

### Electrical Data

<table>
<thead>
<tr>
<th>Silver</th>
<th>Gold</th>
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</thead>
<tbody>
<tr>
<td>SWITCHING MODE: BBM</td>
<td>BBM</td>
</tr>
<tr>
<td>MAX. SWITCHING POWER: 5 VA</td>
<td>0.5 VA</td>
</tr>
<tr>
<td>MAX. SWITCHING CURRENT: 150 mA</td>
<td>20 mA</td>
</tr>
<tr>
<td>MAX. CARRYING CURRENT: 5 A</td>
<td>1 A</td>
</tr>
<tr>
<td>NOMINAL VOLTAGE AT 50 Hz: 60 V</td>
<td>25 V</td>
</tr>
<tr>
<td>CONTACT RESISTANCE: &lt; 150 mΩ</td>
<td>&lt; 150 mΩ</td>
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<tr>
<td>DIELECTRIC STRENGTH AT 50 Hz BETWEEN CONTACTS AND GROUND TERMINALS: 500 V r</td>
<td>500 V r</td>
</tr>
<tr>
<td>INSULATION RESISTANCE BETWEEN CONTACTS OR CONTACTS AND FRAME (500 V =): 10 Ω</td>
<td>10 Ω</td>
</tr>
<tr>
<td>NO. OF OPERATIONS: 10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>BOUNCE: &lt; 5 ms</td>
<td>&lt; 5 ms</td>
</tr>
</tbody>
</table>

### Mechanical Data

- MAX. NO. OF BANKS: 1.
- OPERATING TORQUE: 5 Ncm±20%.
- END STOP TORQUE: 50 Ncm. minimum
- STOP: With/without or adjustable
- MOUNTING: By fixed index 9.5 mm (0.374) of center, for bushing mount only

### Materials
- BUSHING/HOUSING: PETP Thermoplastic
- STATIONARY CONTACTS & TERMINALS: Nickel Plated Brass with additional plating of Gold or Silver.
- ROTOR: Gold or Silver plated Brass or PCB.
- CODING PLATE: PA thermoplastic
- ACTUATOR: Polysulfon thermoplastic

### Environmental Data

- OPERATING TEMPERATURE: –20ºC to + 70ºC
- STORAGE TEMPERATURE: –40ºC to + 85ºC

**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

### Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-9 thru K-12. For additional options not shown in catalog, consult Customer Service Center.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Indexing</th>
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<tbody>
<tr>
<td>RTA</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Termination</th>
<th>Switch Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1W12 SP, 30° Index, 12 pos. no stop</td>
</tr>
<tr>
<td>H</td>
<td>1W10 SP, 36° Index, 10 pos. no stop</td>
</tr>
<tr>
<td></td>
<td>1S02 SP, 30°/36° Index, 2 pos.</td>
</tr>
<tr>
<td></td>
<td>1S03 SP, 30°/36° Index, 3 pos.</td>
</tr>
<tr>
<td></td>
<td>1S04 SP, 30°/36° Index, 4 pos.</td>
</tr>
<tr>
<td></td>
<td>1S05 SP, 30°/36° Index, 5 pos.</td>
</tr>
<tr>
<td></td>
<td>1S06 SP, 30°/36° Index, 6 pos.</td>
</tr>
<tr>
<td></td>
<td>1S07 SP, 30°/36° Index, 7 pos.</td>
</tr>
<tr>
<td></td>
<td>1S08 SP, 30°/36° Index, 8 pos.</td>
</tr>
<tr>
<td></td>
<td>1S09 SP, 30°/36° Index, 9 pos.</td>
</tr>
<tr>
<td></td>
<td>1S10 SP, 30°/36° Index, 10 pos.</td>
</tr>
<tr>
<td></td>
<td>1S11 SP, 30° Index, 11 pos.</td>
</tr>
<tr>
<td></td>
<td>1S12 SP, 30° Index, 12 pos.</td>
</tr>
<tr>
<td></td>
<td>2S02 DP, 30°/36° Index, 2 pos.</td>
</tr>
<tr>
<td></td>
<td>2S03 DP, 30°/36° Index, 3 pos.</td>
</tr>
<tr>
<td></td>
<td>2S04 DP, 30°/36° Index, 4 pos.</td>
</tr>
<tr>
<td></td>
<td>2S05 DP, 30°/36° Index, 5 pos.</td>
</tr>
<tr>
<td></td>
<td>2S06 DP, 30° Index, 6 pos.</td>
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<table>
<thead>
<tr>
<th>Contact Material</th>
<th>Actuator (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>25N .984 (25.0) with screwdriver slot</td>
</tr>
<tr>
<td>S</td>
<td>50N 1.97 (50.0) with screwdriver slot</td>
</tr>
<tr>
<td>P</td>
<td>25F .984 (25.0) Shaft with flat</td>
</tr>
<tr>
<td>P</td>
<td>06F .236 (6.0) Shaft with flat</td>
</tr>
</tbody>
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### Build-A-Switch Options

<table>
<thead>
<tr>
<th>Mounting Style</th>
<th>Contact</th>
<th>Actuator (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W Without bushing</td>
<td>C 3/8-32 Threaded Bushing with Straight Bracket</td>
<td></td>
</tr>
<tr>
<td>R 3/8-32 Threaded Bushing</td>
<td>A M10x.75 Metric Threaded Bushing with Offset Bracket</td>
<td></td>
</tr>
<tr>
<td>M M10x.75 Metric Threaded Bushing</td>
<td>B M10x.75 Metric Threaded Bushing with Offset Bracket</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions and specifications are subject to change.
RTA Series
1-4 Poles Coded Rotary Switches

**DESIGNATION**

RTA

**TERMINATION**

P

WITH PC PINS

H

Horizontal with PC Thru-hole

Note: “H” termination only available with the following options:
1. With A or B mounting styles
2. 36º degree indexing
3. Up to 5 positions max

**INDEXING**

2 22.5 index, 16 positions max.

3 30 index, 12 positions max.

4 36 index, 10 positions max.

Both commons must be connected by user to ground.

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

www.ckswitches.com
RTA Series
1-4 Poles Coded Rotary Switches

SWITCH FUNCTION

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1W12</td>
<td>12 Positions</td>
<td>No Stop</td>
<td>30°</td>
</tr>
<tr>
<td>1W10</td>
<td>10 Positions</td>
<td>No Stop</td>
<td>36°</td>
</tr>
<tr>
<td>1S02</td>
<td>2 Positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1S03</td>
<td>3 Positions</td>
<td></td>
<td>30°/36°</td>
</tr>
<tr>
<td>1S05</td>
<td>5 Positions</td>
<td></td>
<td>30°/36°</td>
</tr>
<tr>
<td>1S06</td>
<td>6 Positions</td>
<td></td>
<td>30°/36°</td>
</tr>
<tr>
<td>1S08</td>
<td>8 Positions</td>
<td></td>
<td>30°/36°</td>
</tr>
<tr>
<td>1S09</td>
<td>9 Positions</td>
<td></td>
<td>30°/36°</td>
</tr>
<tr>
<td>1S10</td>
<td>10 Positions</td>
<td></td>
<td>30°/36°</td>
</tr>
<tr>
<td>1S11</td>
<td>11 Positions</td>
<td></td>
<td>30°</td>
</tr>
<tr>
<td>1S12</td>
<td>12 Positions</td>
<td></td>
<td>30°</td>
</tr>
</tbody>
</table>

1P MODELS SCHEMATIC

3P MODELS SCHEMATIC

DP MODELS SCHEMATIC

4P MODELS SCHEMATIC

NOTE: Layout view from component side. Common terminals that are in locations A-G are not connected to common terminals that are in locations H-N. For 7-12 position output customer must tie these commons together.
RTA Series
1-4 Poles Coded Rotary Switches

ACTUATOR

25N  .984 (25,0) WITH SCREWDRIVER SLOT

50N  1.97 (50,0) WITH SCREWDRIVER SLOT

FLS  FLUSH SHAFT WITH SCREWDRIVER SLOT AND POSITION INDICATOR

25F  .984 (25,0) SHAFT WITH FLAT

CONTACT MATERIAL

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT AND TERMINAL MATERIAL</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>SILVER</td>
<td>LOW LEVEL/DRY CIRCUIT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SWITCH: 150 mA MAXIMUM, 60 V NOMINAL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POWER: 5 VA MAXIMUM. CARRY: 5 AMPS MAXIMUM.</td>
</tr>
<tr>
<td>P</td>
<td>GOLD</td>
<td>LOW LEVEL/DRY CIRCUIT OR POWER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SWITCH: 20 mA MAXIMUM, 25 V NOMINAL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POWER: 0.5 VA MAXIMUM. CARRY: 1 AMP MAXIMUM.</td>
</tr>
</tbody>
</table>

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

AVAILABLE HARDWARE

Mounting Nuts

Stop pins

Lockwasher

PART NO. 472706201 Standard
PART NO. 495100201 Metric
PART NO. Y200300200PCH
PART NO. 472800202

NOTE: Additional nuts and lockwashers available separately, see section “Technical Data and Additional Hardware”.

3 dec 18

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**Features/Benefits**
- Multi-pole and multi-positions
- Panel and PCB mounting
- Stainless steel actuator
- Non-shorting contacts
- RoHS Compliant
- IP67 (F option only)

**Typical Applications**
- Test equipment
- Industrial equipment
- Medical equipment

---

**Specifications**

CONTACT RATING: Q contact material: Carry-6 AMPS continuous. Switch-250 mA max. @ 125 V AC or 28 DC. Non-shorting contacts standard. See page K-16 for additional ratings.

ELECTRICAL LIFE: 10,000 make-and-break cycles at 150 mA, 125 V AC or 28 DC.

CONTACT RESISTANCE: Below 20 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: $10^{10}$ Ω min.

DIELECTRIC STRENGTH: 600 Vrms min. @ sea level.

OPERATING & STORAGE TEMPERATURE: -30°C to 85°C.

OPERATING TORQUE: 4-7 ounces-inches typ. initial.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

**Materials**

HOUSING AND BUSHING: Zinc alloy, bright zinc plated, with clear chromate finish.

ACTUATOR: Zinc alloy, nickel plated or stainless steel.

BASE: Diallylphthalate (DAP) or melamine phenolic, with insert molded terminals.

ROTOR: Glass filled polyester (UL 94V-0).

MOVABLE CONTACTS:
- Non-shorting: Q contact material: Copper alloy, silver plated.

STATIONARY CONTACT & ALL TERMINALS: Q contact material: Copper alloy, silver plated. All terminals insert molded. All terminals present regardless of number of switch positions. See page K-16 for additional contact materials.

CONTACT SPRING: Music wire, phosphate coated.

STOP PIN: Stainless steel.

STOP RING: Brass.

HARDWARE: Nut: Brass, nickel plated; Lockwasher: Steel, nickel plated.

---

**Build-A-Switch**

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-14 thru K-17. For additional options not shown in catalog, consult Customer Service Center.

---

**Materials**

HOUSING AND BUSHING: Zinc alloy, bright zinc plated, with clear chromate finish.

ACTUATOR: Zinc alloy, nickel plated or stainless steel.

BASE: Diallylphthalate (DAP) or melamine phenolic, with insert molded terminals.

ROTOR: Glass filled polyester (UL 94V-0).

MOVABLE CONTACTS:
- Non-shorting: Q contact material: Copper alloy, silver plated.

STATIONARY CONTACT & ALL TERMINALS: Q contact material: Copper alloy, silver plated. All terminals insert molded. All terminals present regardless of number of switch positions. See page K-16 for additional contact materials.

CONTACT SPRING: Music wire, phosphate coated.

STOP PIN: Stainless steel.

STOP RING: Brass.

HARDWARE: Nut: Brass, nickel plated; Lockwasher: Steel, nickel plated.
# M Series
## Half-inch Rotary Switches

### SWITCH FUNCTION

<table>
<thead>
<tr>
<th>36° INDEXING</th>
<th>30° INDEXING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NO. POLES</strong></td>
<td><strong>MODEL NO. WITH STOP RINGS</strong></td>
</tr>
<tr>
<td>SP</td>
<td></td>
</tr>
<tr>
<td>5 Positions</td>
<td>MA00</td>
</tr>
<tr>
<td>4 Positions</td>
<td>MA02</td>
</tr>
<tr>
<td>3 Positions</td>
<td>MA03</td>
</tr>
<tr>
<td>2 Positions</td>
<td>MA04</td>
</tr>
<tr>
<td>1 Position</td>
<td>MA05</td>
</tr>
<tr>
<td>10 Positions</td>
<td>MA10</td>
</tr>
<tr>
<td>DP</td>
<td></td>
</tr>
<tr>
<td>5 Positions</td>
<td>MB00</td>
</tr>
<tr>
<td>4 Positions</td>
<td>MB04</td>
</tr>
</tbody>
</table>

All models with all options when ordered with S1-S6 stainless steel actuator options.

**NOTE:** Number of positions or stops preset at factory (NOTE: MX00 models have full 360 rotation with no stops. Stop pins or stop rings supplied for user-selectable stops, see above). All terminals present regardless of number of switch positions. Hardware is available separately, see section “Technical Data and Additional Hardware”.

Part number shown: MA00L1NZQD

Part number shown: MC00L1NZQD
### M Series
Half-inch Rotary Switches

#### ACTUATOR (ZINC ALLOY)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Actuator</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>.650&quot; LONG, FLATTED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>SCREWDRIVER SLOT, FLUSH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L3</td>
<td>.650&quot; LONG, ROUND</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ACTUATOR (STAINLESS STEEL)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Actuator</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>.650&quot; LONG, FLATTED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2</td>
<td>SCREWDRIVER SLOT, FLUSH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>.650&quot; LONG, ROUND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S6</td>
<td>.785&quot; LONG, SLOT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

All actuators shown in pos. 1

All models are available when ordered with stainless steel actuators.

---

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

www.ckswitches.com
M Series
Half-inch Rotary Switches

SHORTING/NON-SHORTING CONTACTS

N  NON-SHORTING CONTACTS

Break-before-make

TERMINATIONS

Z  SOLDER LUG

C  PC THRU-HOLE

TERMINATIONS

CONTACT MATERIAL

OPTION CODE | CONTACT MATERIAL | TERMINAL PLATING | RATING
---|---|---|---
Q | SILVER 1, 2 | SILVER 2 | POWER
G | GOLD OVER SILVER 3, 4 | GOLD 4 | LOW LEVEL/DRY CIRCUIT OR POWER

1 MOVEABLE CONTACTS: Non-shorting: Copper alloy, silver plated.
2 STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, silver plated.
3 MOVEABLE CONTACTS: Non-shorting: Copper alloy, with gold plate over nickel plate, over silver plate.
4 STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate over silver plate.

NOTE: Any models supplied with Q, G contact material are RoHS compliant.

Hardware: All models, one mounting nut and lockwasher supplied standard. MA00 thru MD00 models: two stop pins and adhesive mylar washer supplied. ME00 thru MH00 models: two stop rings supplied. Hardware is available separately, see section “Technical Data and Additional Hardware”.

* Will withstand 12 in. - lbs of torque with no distortion.

NOTE: Q contact material standard. Terminal numbers marked on side of housing. All terminals insert molded. All terminals present regardless of number of switch positions.

Actuators and schematics shown in pos. 1.

All models when ordered with S1-S6 stainless steel actuator options.
**Setting Stops With Stop Pins**

**MA00, MB00, MC00 & MD00 Models Only:**

The number of switch positions or stops are adjustable by means of stop pins provided with each switch. Switches are normally shipped with stop pins and hardware in bulk, not installed. Without stop pins, switches have full 360º rotation and no stops. Note that all two pole models begin to repeat when actuated 180º or more.

To set stops, refer to figures 1 & 2. Orient switch so that terminal no. 1 is as shown. Turn actuator to position 1, using flats on bushing and terminal no. 1 as reference. Install CCW stop pin in hole designated ‘X’. Install second stop pin in hole number corresponding to the number of positions desired. Note that all two pole models will begin to repeat when actuated 180º or more. To retain stop pins, use adhesive mylar washer included; see figure 3.

All models except MX00 models have number of switch positions or stops pre-set at factory and are not adjustable.

**Hardware:**

Two stop pins, mounting nut, and lockwasher supplied standard.

**Setting Stops With Stop Rings**

**ME00, MF00, MG00 & MH00 Models Only:**

The number of switch positions or stops are adjustable by means of stop rings provided with each switch. These models are normally shipped with stop rings and hardware in bulk, not installed. Without stop rings, switches have full 360º rotation and no stops. Note that all two pole models begin to repeat when actuated 180º or more.

To set stops refer to figures 4 & 5. Orient switch so that terminal no. 1 is as shown. Turn actuator to pos. 1 using flats on bushing and terminal no. 1 as reference. See figure 6 and install inner stop ring with short tab in hole designated ‘X’. Install outer stop ring with long tab in hole number corresponding to the number of positions desired. Note that all two pole models begin to repeat when actuated 180º or more. Use mounting nut and lockwasher to retain stop rings.

**All MEXX, MFXX, MGXX & MHXX Models (Except MX00 models):**

Number of switch positions or stops are preset at factory, but are user adjustable.

**Hardware:**

Two stop rings, mounting nut and lockwasher supplied standard.
R Series
ROTA-SLIDE® Rotary Switches

Features/Benefits
- Multi-pole and multi-position
- Positive detent
- Panel and PCB mounting
- Enclosed
- RoHS Compliant

Typical Applications
- Ceiling fans
- Industrial equipment
- Portable tools

Specifications
CONTACT RATING: Q contact material: 5 AMPS @ 125 V AC; 2.5 AMPS @ 250 V AC; 0.5 AMP @ 125 V DC; 1/8 HP @ 125 and 250 VAC (UL/CSA).
See page K-20 for additional ratings.
ELECTRICAL LIFE: 10,000 make-and-break cycles at full load.
CONTACT RESISTANCE: Below 10 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.
INSULATION RESISTANCE: 10^9 Ω min.
DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.
INDEXING: 36°-one contact models, 10 position max.; two contact models, 5 position max.
OPERATING & STORAGE TEMPERATURE: -30°C to 95°C

Materials
HOUSING & BUSHING: 6/6 nylon (UL 94V-2).
ACTUATOR: 6/6 nylon (UL 94V-2).
CONTACTS & TERMINALS: Q contact material: Copper, silver plated.
See page K-20 for additional contact materials.
CONTACT SPRING: Music wire or stainless steel.
MOUNTING NUT: Steel, zinc plated.
TERMINAL SEAL: Epoxy.
NOTE: Any models supplied with Q or B contact material are RoHS compliant.
NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Build-A-Switch
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-19 and K-20. For additional options not shown in catalog, consult Customer Service Center.
R Series

ROTA-SLIDE® Rotary Switches

**SWITCH FUNCTION**

### SP MODELS 36° INDEXING

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>R100</td>
<td>10 Position No Stops</td>
<td>All Terminals</td>
</tr>
<tr>
<td></td>
<td>R103</td>
<td>3 Position</td>
<td>10-1-2-3-4</td>
</tr>
<tr>
<td></td>
<td>R104</td>
<td>4 Position</td>
<td>10-1-2-3-4-5-6-7-8</td>
</tr>
<tr>
<td></td>
<td>R108</td>
<td>8 Position</td>
<td>10-1-2-3-4-5-6-7-8</td>
</tr>
</tbody>
</table>

**NOTE:** Break-before-make contacts. Actuators and contacts are shown in position 1. No common terminal is present. Switching function is provided by movable contacts shorting adjacent pairs of stationary contacts.

### DP MODELS 36° INDEXING

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>R203</td>
<td>3 Position</td>
<td>10-1-2-3-5-6-7-8</td>
</tr>
<tr>
<td></td>
<td>R204</td>
<td>4 Position</td>
<td>All Terminals</td>
</tr>
<tr>
<td></td>
<td>R205</td>
<td>5 Position</td>
<td>All Terminals</td>
</tr>
</tbody>
</table>

### TERMINALS

- 10 Position No Stops
- 4 Position
- 8 Position

All models with all options when ordered with ‘Q’ contact material.

**ACTUATOR**

- 07 .50019” HIGH WITH .156” FLAT
- 05 .375”19 HIGH WITH .156” FLAT
- 15 SCREWDRIVER SLOT

**Part number show:** R10007RR03Q

Shown with ‘RR’ mounting style. For mounting styles without bushing, add .250 (6.35) to actuator length.

Shown with ‘RN’ mounting style.

Arrow on actuator marked red (std.). Shown with ‘RS’ mounting style.

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

www.ckswitches.com
R Series
ROTA-SLIDE® Rotary Switches

MOUNTING STYLE

RR  3/8-32 THREADED BUSHING  RN  PC WITHOUT BUSHING  RS  PC SCREWDRIVER SLOT WITHOUT BUSHING

TERMINATIONS

03  SOLDER LUG WITH HOLE  01  SOLDER LUG WITH NOTCH  02  PC THRU-HOLE  WC  WIRE LEAD

CONTACT MATERIAL

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT AND TERMINAL MATERIAL</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>SILVER ²</td>
<td>POWER</td>
</tr>
<tr>
<td>B</td>
<td>GOLD ¹</td>
<td>LOW LEVEL/DRY CIRCUIT</td>
</tr>
</tbody>
</table>

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

1 CONTACTS & TERMINALS: Copper, with gold plate over nickel plate.
2 CONTACTS & TERMINALS: Copper, silver plated. (Standard with all termination options.)

NOTE: Any models supplied with Q, B or G contact material are RoHS compliant.

All models with options when ordered with ‘Q’ contact material.

SEAL

NONE  NO SEAL  E  EPOXY SEAL

Mounting nut included (part number 175000100).

Position numbers and characters are molded on housing.

Specifications and dimensions subject to change.

www.ckswitches.com
## Features/Benefits
- Multi-pole and multi-position
- Panel and PCB mounting
- Positive detent
- Value added capability
- RoHS Compliant

## Typical Applications
- Small appliances
- Testing fixtures
- Safety equipment

## Specifications
**CONTACT RATING:** Q contact material: 4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 V AC (UL/CSA). See page K-24 for additional ratings.

**ELECTRICAL LIFE:** 10,000 make-and-break cycles at full load.

**CONTACT RESISTANCE:** Below 10 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

**INSULATION RESISTANCE:** 10^9 Ω min.

**DIELECTRIC STRENGTH:** 1,000 Vrms min. @ sea level.

**INDEXING:** 45° or 90° - one contact models; two contact models, 4 pos. max. Models with common terminal -90°, 4 pos. max.

**OPERATING & STORAGE TEMPERATURE:** -30°C to 65°C

## Materials
**HOUSING & BUSHING:** 6/6 Nylon (UL 94V-2).

**ACTUATOR:** 6/6 nylon (UL 94V-2).

**CONTACTS:** Q contact material: Copper, silver plated. See page K-24 for additional contact materials.

**TERMINALS:** Q contact material: Copper, silver plated. See page K-24 for additional contact materials.

**CONTACT SPRING:** Music wire or stainless steel.

**MOUNTING NUT:** Brass, nickel plated.

**TERMINAL SEAL:** Epoxy.

### Build-A-Switch
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-22 thru K-24. For additional options not shown in catalog, consult Customer Service Center.

<table>
<thead>
<tr>
<th>Switch Function</th>
<th>Actuator</th>
<th>Mounting Style</th>
<th>Terminations</th>
<th>Contact Material</th>
<th>Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA05 SP, 90° Index, 3 pos.</td>
<td>15 Screwdriver slot without bushing</td>
<td>RN PC</td>
<td>02 PC Thru-hole</td>
<td>Q Silver</td>
<td>NONE No seal</td>
</tr>
<tr>
<td>F103 SP, 45° Index, 3 pos.</td>
<td></td>
<td>RS 5/16-32 threaded bushing</td>
<td>WC Wire lead</td>
<td>B Gold</td>
<td>E Epoxy seal</td>
</tr>
<tr>
<td>F203 DP, 45° Index, 3 pos.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA01 SPDT, 90° Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FC03 SP, W/ Common 90° Index, 3 pos.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Any models supplied with Q or B contact material are RoHS compliant.

**Note:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.
### F Series Miniature ROTA-SLIDE® Rotary Switches

#### SWITCH FUNCTION

#### 45° INDEXING SCHEMATICS

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>F103</td>
<td>3 Position</td>
<td>8-1-2-3*</td>
</tr>
<tr>
<td>DP</td>
<td>F203</td>
<td>3 Position</td>
<td>All Terminals</td>
</tr>
</tbody>
</table>

**Break-before-make contacts. Terminal numbers are molded on bottom of housing. Actuators are shown in position 1.**

**F1XX, F2XX models: No common terminal is present. Switching function is provided by movable contacts shorting adjacent pairs of stationary contacts.**

**NOTE:** Switches with ‘02’ PC terminations have additional terminal no. 5 as switch support only. This terminal is not connected electrically inside switch.

#### 90° INDEXING SCHEMATICS

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>FA01</td>
<td>SPDT</td>
<td>8-1-3</td>
</tr>
<tr>
<td></td>
<td>FA05</td>
<td>3 Position</td>
<td>8-1-3-5</td>
</tr>
<tr>
<td>SP WITH COMMON</td>
<td>FC03</td>
<td>3 Position</td>
<td>C-1,C-2,C-3</td>
</tr>
</tbody>
</table>

**Break-before-make contacts. Terminal numbers are molded on bottom of housing. Actuators are shown in position 1.**

**FA0X models: No common terminal is present. Switching function is provided by movable contacts shorting adjacent pairs of stationary contacts.**

**NOTE:** Switches with ‘02’ PC terminations have additional terminal no. 5 as switch support only. This terminal is not connected electrically inside switch.

**FCXX models: Common terminal is present.**

**NOTE:** Switches with ‘02’ PC terminations have additional terminal no. 5 as switch support only. This terminal is not connected electrically inside switch.

---

Part number shown: FC0315RN02Q

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**Dimensions are shown: Inch [mm]**

Specifications and dimensions subject to change.
### F Series

**Miniature ROTA-SLIDE® Rotary Switches**

**ACTUATOR**

<table>
<thead>
<tr>
<th>15</th>
<th>SCREWDRIVER SLOT WITHOUT BUSHING</th>
</tr>
</thead>
<tbody>
<tr>
<td>08</td>
<td>.585&quot; HIGH WITH .156&quot; FLA</td>
</tr>
</tbody>
</table>

Shown with ‘RN’ mounting style; not available with ‘RS’ mounting style or FCXX models.

**MOUNTING STYLE**

<table>
<thead>
<tr>
<th>RN</th>
<th>PC</th>
</tr>
</thead>
</table>

PC mount, no bushing, position numbers molded standard. Shown with ‘15’ actuator; not available with ‘08’ actuator or FCXX models.

<table>
<thead>
<tr>
<th>RS</th>
<th>5/16-32 THREADED BUSHING</th>
</tr>
</thead>
</table>

Panel mount, with 5/16 in.–32 threaded bushing. Mounting nut (P/N 175020201) included. Must be ordered with ‘08’ actuator option.

**TERMINATIONS**

<table>
<thead>
<tr>
<th>02</th>
<th>PC THRU-HOLE</th>
</tr>
</thead>
</table>

| WC | WIRE LEAD |

Black wire standard, other colors and lengths available, consult Customer Service Center. UL style 1015.

**F1XX, F2XX & FAXX Models**

| 02 | PC THRU-HOLE |

**FCXX Models**
F Series
Miniature ROTA-SLIDE® Rotary Switches

CONTACT MATERIAL

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT MATERI AL</th>
<th>TERMINAL MATERI AL</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>SILVER (^2)</td>
<td>POWER</td>
<td>4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 V AC (UL/CSA).</td>
</tr>
<tr>
<td>B</td>
<td>GOLD (^1)</td>
<td>LOW LEVEL/DRY CIRCUIT</td>
<td>0.4 VA MAX. @ 20 V AC or DC MAX.</td>
</tr>
</tbody>
</table>

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

1 CONTACTS & TERMINALS: Copper, with gold plate over nickel plate.
2 CONTACTS & TERMINALS: Copper, silver plated (standard with all termination options).

NOTE: Any models supplied with Q or B contact material are RoHS compliant.

All models  with all options when ordered with ‘Q’ contact material.

SEAL

<table>
<thead>
<tr>
<th>SEAL CODE</th>
<th>SEAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>NO SEAL</td>
</tr>
<tr>
<td>E</td>
<td>EPOXY SEAL</td>
</tr>
</tbody>
</table>

Not available on FCXX models.
**H Series**

**Power ROTA-SLIDE® Rotary Switches**

### Features/Benefits
- Multi-pole and multi-position
- Positive detent
- Power switching up to 12 AMPS
- Value added capability
- RoHS Compliant

### Typical Applications
- Small appliances
- Industrial equipment
- Elevators

### Specifications
- **CONTACT RATING:** 12 Amps @ 125 V AC; 6 AMPS @ 250 V AC; 1 AMP @ 125 V DC (UL/CSA).
- **ELECTRICAL LIFE:** 10,000 make-and-break cycles at full load.
- **INSULATION RESISTANCE:** $10^9$ Ω min.
- **DIELECTRIC STRENGTH:** 1,000 Vrms min. @ sea level.
- **INDEXING:** 45º-one contact models, 8 positions max.; two contact models, 4 positions max.
- **OPERATING & STORAGE TEMPERATURE:** -30ºC to 95ºC

**NOTE:** Any models supplied with Q, B or G contact material are RoHS compliant.

**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

### Materials
- **HOUSING & BUSHING:** 6/6 nylon (UL 94V-2).
- **ACTUATOR:** 6/6 nylon (UL 94V-2).
- **CONTACTS & TERMINALS:** Copper, silver plated.
- **CONTACT SPRING:** Music wire or stainless steel.
- **MOUNTING NUT:** Steel, zinc plated.
- **TERMINAL SEAL:** Epoxy.

### Build-A-Switch
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-26 thru K-27. For additional options not shown in catalog, consult Customer Service Center.

**Switch Function**
- **H203** DP, 45° Index, 3 pos.
- **H101** SPST, 45° Index
- **H202** DPDT, 45° Index
- **H204** DP, 45° Index, 4 pos.

**Actuator**
- **07** 0.275" high with .156" flat

**Mounting Style**
- **RR** 3/8-40 threaded bushing

**Terminations**
- **05** .110" quick connect
- **01** Solder lug with notch

**Contact Material**
- **Q** Silver
H Series
Power ROTA-SLIDE® Rotary Switches

### SWITCH FUNCTION

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>H101</td>
<td>SPST</td>
<td>8-1</td>
</tr>
</tbody>
</table>

### DP MODELS 45º INDEXING

<table>
<thead>
<tr>
<th>NO. POLES</th>
<th>MODEL NO.</th>
<th>SWITCH FUNCTION</th>
<th>TERMINALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>H202</td>
<td>DPDT</td>
<td>7-8-1, 3-4-5</td>
</tr>
<tr>
<td></td>
<td>H203</td>
<td>3 Position</td>
<td>All Terminals</td>
</tr>
<tr>
<td></td>
<td>H204</td>
<td>4 Position</td>
<td>All Terminals</td>
</tr>
</tbody>
</table>

**NOTE:** Break-before-make contacts. Terminal numbers are molded on bottom of housing. Actuators and contacts are shown in position 1. No common terminal is present. Switching function is provided by movable contacts shorting adjacent pairs of stationary contacts.

All models with all options.

**Part number shown:** H10107RR05Q

**ACTUATOR**

07 .275" HIGH WITH .156" FLAT
H Series
Power ROTA-SLIDE® Rotary Switches

MOUNTING STYLE

RR 3/8-32 THREADED BUSHING

TERMINATIONS

05 SOLDER LUG WITH HOLE
01 SOLDER LUG WITH NOTCH

CONTACT MATERIAL

<table>
<thead>
<tr>
<th>OPTION CODE</th>
<th>CONTACT AND TERMINAL MATERIAL</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>SILVER ¹</td>
<td>POWER</td>
</tr>
</tbody>
</table>

¹ CONTACTS & TERMINALS: Copper, silver plated.

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

NOTE: Any models supplied with Q contact material are RoHS compliant. All models with all options.

Mounting nut included (part number 925C00000).

Not available on models with 90° indexing.
RW Series
Sub-miniature Rotary Switches

Features/Benefits
• 8 and 10 positions
• SMT version
• Subminiature design

Typical Applications
• Digital cameras
• Audio & visual equipment
• Consumer electronics
• Selector dial interface

Specifications
CONTACT ARRANGEMENT: 1 Pole 8 Position
CONTACT RATING: 0.1 A @ 16 V DC.
ELECTRICAL LIFE: 10,000 cycles.
INITIAL CONTACT RESISTANCE: 100 mΩ max.
INSULATION RESISTANCE: 10M Ω min.
DIELECTRIC STRENGTH: 100V (50-60 Hz).
TWIST FORCE: 150 ± 100 gf
OPERATING TEMPERATURE: -20°C to 70°C

Materials
KNOB: PA (UL 94V-0).
COVER: SUS
HOUSING: PA (UL94V-0)
TERMINAL: Silver plated.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
Specifications
CONTACT ARRANGEMENT: 1 Pole, 10 Position
CONTACT RATING: 10 mA @ 5 V DC.
ELECTRICAL LIFE: 7,000 cycles.
INITIAL CONTACT RESISTANCE: 200 mΩ max.
INSULATION RESISTANCE: 250M Ω min.
DIELECTRIC STRENGTH: 250 VAC (50-60 Hz).
TWIST FORCE: 90 ± 15 gf
OPERATING TEMPERATURE: -30°C to 80°C

Materials
KNOB: PA (UL 94V-0).
COVER: Silver plated.
HOUSING: LCP (UL94V-0)
TERMINAL: Silver plated.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.
RM Series
Subminiature Rotary Switches

Features/Benefits
• Subminiature design saves space
• Screwdriver slot or extended shaft
• Positive detent
• RoHS compliant

Typical Applications
• Audio & visual equipment
• Consumer electronics
• Telecom equipment

Specifications
CONTACT RATING: 0.5A 24 V DC; 0.2A 48 V DC
OPERATING LIFE: 2,000 cycles
INSULATION RESISTANCE: 100 M Ω min. 500 V DC
DIELECTRIC STRENGTH: 500 V AC for 1 minute
OPERATING FORCE: 270 ± 100 gf cm
OPERATING TEMPERATURE: -40°C to 85°C

Materials
COVER: PA66
BASE: PA6T
ACTUATOR: PA66
CONTACTS & TERMINALS: Brass with gold plate over nickel plate
SPRING: Brass

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Build-A-Switch
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages K-30 thru K-32. For additional options not shown in catalog, consult Customer Service Center.

Switch Function
RM100 45° Index, 8 pos. No stops
RM101 45° Index, 1 pos. + Off
RM102 45° Index, 2 pos.
RM103 45° Index, 3 pos.
RM104 45° Index, 4 pos.
RM105 45° Index, 5 pos.
RM106 45° Index, 6 pos.
RM107 45° Index, 7 pos.

Actuator
77 7.7 mm high, flatted, screwdriver slot
00 Flush, screwdriver slot

Actuator Color
2 Black

Torque
B 270 GF * CM

Termination
C PC Thru-hole

Contact Material
B Gold

Dimensions are shown: mm
Specifications and dimensions subject to change
www.ckswitches.com
RM Series
Subminiature Rotary Switches

77 7.7 MM HIGH, FLATTED, SCREWDRIVER SLOT

00 FLUSH, SCREWDRIVER SLOT

ELECTRICAL SCHEMATIC - RM SERIES SWITCHES

<table>
<thead>
<tr>
<th>SWITCH FUNCTION</th>
<th>TRAVEL POSITION 0°</th>
<th>TRAVEL POSITION 45°</th>
<th>TRAVEL POSITION 90°</th>
<th>TRAVEL POSITION 135°</th>
<th>TRAVEL POSITION 180°</th>
<th>TRAVEL POSITION 225°</th>
<th>TRAVEL POSITION 270°</th>
<th>TRAVEL POSITION 315°</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM100</td>
<td>C-C(OFF)</td>
<td>C-1</td>
<td>C-2</td>
<td>C-3</td>
<td>C-4</td>
<td>C-5</td>
<td>C-6</td>
<td>C-7</td>
</tr>
<tr>
<td>RM101</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>C-7</td>
</tr>
<tr>
<td>RM102</td>
<td>X</td>
<td>C-1</td>
<td>C-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RM103</td>
<td>X</td>
<td>C-1</td>
<td>C-2</td>
<td>C-3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RM104</td>
<td>X</td>
<td>C-1</td>
<td>C-2</td>
<td>C-3</td>
<td>C-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RM105</td>
<td>X</td>
<td>C-1</td>
<td>C-2</td>
<td>C-3</td>
<td>C-4</td>
<td>C-5</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>RM106</td>
<td>X</td>
<td>C-1</td>
<td>C-2</td>
<td>C-3</td>
<td>C-4</td>
<td>C-5</td>
<td>C-6</td>
<td>X</td>
</tr>
<tr>
<td>RM107</td>
<td>X</td>
<td>C-1</td>
<td>C-2</td>
<td>C-3</td>
<td>C-4</td>
<td>C-5</td>
<td>C-6</td>
<td>C-7</td>
</tr>
</tbody>
</table>

TERMINAL ID NUMBERS ARE SHOWN FOR REFERENCE ONLY AND ARE NOT MARKED ON BOTTOM OF THE SWITCH

EXTERIOR KEY TAB SHOWN IDENTIFIES "C" (COMMON TERMINAL)

Dimensions are shown: mm
Specifications and dimensions subject to change

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K-31
RM Series
Subminiature Rotary Switches

KNOBS

297F02000

296F02000

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com
ENC Series
Optical Encoder

Features/Benefits
• Clear detent/haptic feel
• Two channel, 2-bit code output
• Quadrature (Incremental type)
• Integrated pushbutton
• Panel mount with screw thread
• Cable and connector termination

Specifications

Rotary
Electrical & Mechanical
Operating Voltage: DC 5 ± 0.25V, 30mA max.
Output Voltage: Logic high > 3V DC
Logic low < 1V DC
Rotational Torque: 265 gf-cm initially
Mechanical Life: 300K cycles

Pushbutton
Electrical & Mechanical
Operating Voltage: DC 5V, 10mA
Initial Contact Resistance: 10 ohm max.
Actuation Force: 600 ± 20% gf
Shaft Travel: 0.74 ± 0.2mm
Contact Bounce: < 4ms make, < 10ms break
Mechanical Life: 300K cycles

Environmental Data
Operating Temperature: -40°C to + 90°C
Operating Relative Humidity: <= 96% RH, +40°C
Storage Temperature: -40°C to +90°C

Materials
Actuator: Zinc Alloy
Housing Frame: Zinc Alloy
Detent Rotor: POM, HB
Detent Spring: SUS
Housing Upper: PA66, V0
Housing Lower: POM, HB
Pushbutton Dome: SUS

Typical Applications
• Automotive interior control
• Industrial equipment
• Test & Instrumentation
• Medical equipment

Build-A-Switch
Product specifications and technical information listed above are for standard offer on Optical Encoder. For special options and custom request, please contact your sales representative.
<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>PACKAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCOS16D2S65C</td>
<td>Tray</td>
</tr>
</tbody>
</table>

**ENC Series**

Optical Encoder

Dimensions are shown: mm

Specifications and dimensions subject to change

www.ckswitches.com

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