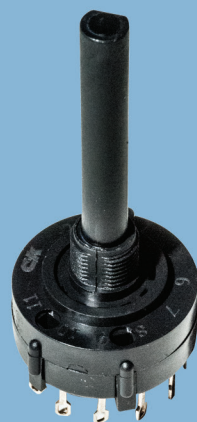
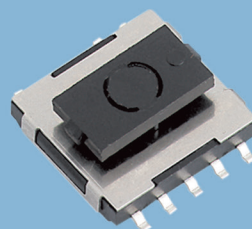
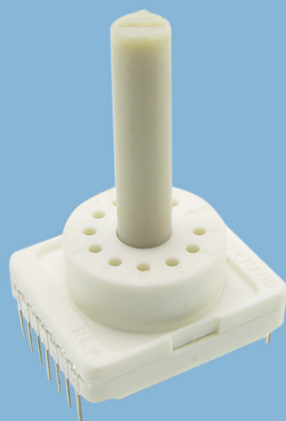
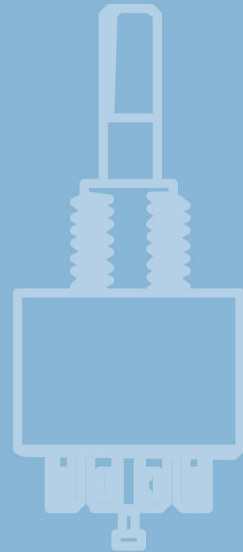
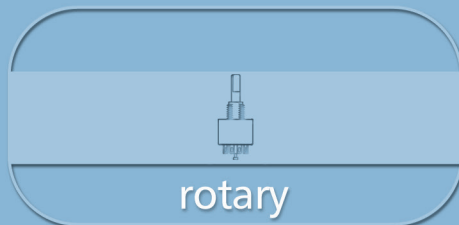











audio  
automotive  
aerospace  
communication devices  
consumer appliances  
consumer electronics  
datacom  
data storage  
handheld devices  
industrial  
industrial equipment  
instrumentation  
medical  
military  
mobile phones  
portable tools  
pumps & motors  
security alarms  
telecom  
test equipment  
thermostatic controls



# rotary

# Rotary Switches

## Product Selection Guide

<b>Rotary</b>									
<b>Series</b>	<b>A</b>	<b>RTA</b>	<b>M</b>	<b>R</b>	<b>F</b>	<b>H</b>	<b>RW</b>	<b>RM</b>	<b>ENC</b>
Switch Type	Multi-pole/ Multi-position	Multi-pole/ Multi-position	Half-inch	Rota-slide	Rota-slide	Power Rota-slide	Subminiature Rotary SMT	Subminiature Rotary	Optical Encoder
Miniature					•		•	•	
Low Profile					•		•		
Screwdriver Slot	•	•	•	•	•			•	•
Power						•			
Maximum Current	2.5 Amps	5A/ 1A	6 Amps	5 Amps	4 Amps	12 Amps	0.1 A 10mA	0.5 Amps	30 mA
Poles	1-4	1-4 (except 3)	1 & 2	1 & 2	1 & 2	1 & 2	1	1	1
Indexing	30°, 45°, 90°	22.5°, 30° 36°	30° & 36°	36°	45° & 90°	45° & 90°	36° & 45°	45°	
Splashproof	•		•						
Sealed			• F option						
Non-shorting/ Shorting Contacts	•								
Panel Mount Options									
Front Mount									
Rear Mount	•	•	•	•	•	•			
PCB Mount Options									
Vertical	•	•	•	•	•		•		
Terminations									
Solder Lug	•	•	•	•	•	•			
Wire Lead				•	•	•			
Quick Connect						•			
PC	•	•	•	•	•		•	•	
Page No .	K-3	K-8	K-13	K-18	K-21	K-25	K-28	K-30	K-33



K

Rotary

# Rotary

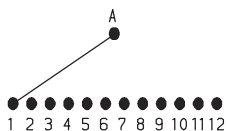
# A Series 1-4 Pole Rotary Switches

## SWITCH FUNCTION

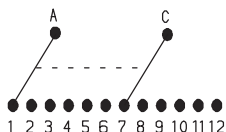


30° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	<b>A100</b>	12 Position No Stops	A,1-12
	<b>A102</b>	SPDT	A,1,2*
	<b>A103</b>	3 Position	A,1-3*
	<b>A104</b>	4 Position	A,1-4*
	<b>A105</b>	5 Position	A,1-5*
	<b>A106</b>	6 Position	A,1-6*
	<b>A107</b>	7 Position	A,1-7
	<b>A108</b>	8 Position	A,1-8
	<b>A109</b>	9 Position	A,1-9
	<b>A110</b>	10 Position	A,1-10
	<b>A112</b>	12 Position	A,1-12
DP	<b>A203</b>	3 Position	A,C,1-3,7-9
	<b>A204</b>	4 Position	A,C,1-4,7-10
	<b>A205</b>	5 Position	A,C,1-5,7-11
	<b>A206</b>	6 Position	A,C,1-12
3P	<b>A303</b>	3 Position	A,B,C,1-3,5-7 9-11
	<b>A304</b>	4 Position	A,B,C,1-12

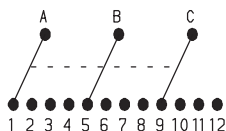
SP MODELS SCHEMATIC



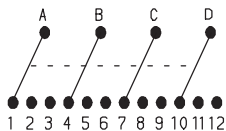
DP MODELS SCHEMATIC



3P MODELS SCHEMATIC



4P MODELS SCHEMATIC

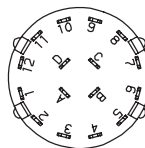


30° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
4P	<b>A402</b>	4PDT	A,B,C,D,1,2,4,5,7, 8,10,11
	<b>A403</b>	3 Position	All Terminals

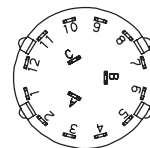
45° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	<b>A115</b>	3 Position	A,1,2,4*
	<b>A125</b>	8 Position	A,1,2,4,5,7,8,10,11

90° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	<b>A114</b>	2 Position	A,1,4*
	<b>A124</b>	4 Position	A,1,4,7,10
DP	<b>A214</b>	2 Position	A,C,1,4,7,10

### TERMINAL NUMBERS



Terminal numbers molded on bottom of housing.

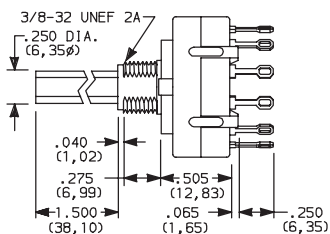
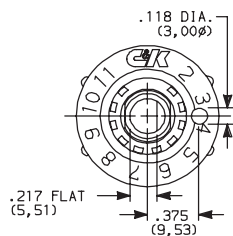


4P MODELS  
SP MODELS (omit terminals B, C & D)  
DP MODELS (omit terminals B & D)

3P MODELS

**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 **C&K** with all options when ordered with 'G' or 'Q' contact material, see page K-6.



TERM. NOS. MOLDED ON HOUSING



Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change



9 Nov 20

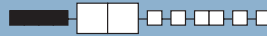


K

Rotary

# A Series 1-4 Pole Rotary Switches

## ACTUATOR



**15** 1.500" HIGH

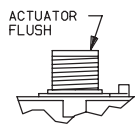
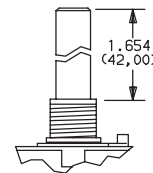
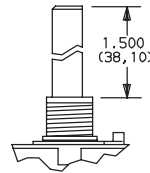
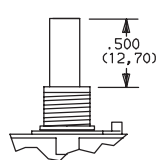
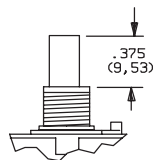
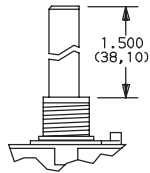
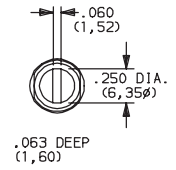
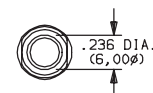
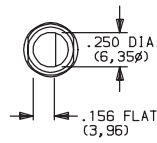
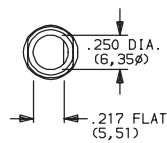
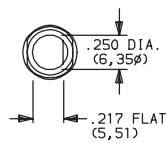
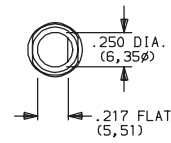
**03** .375" HIGH

**05** .500" HIGH

**14** 1.500" HIGH

**42** 1.654" METRIC

**S1** SCREWDRIVER SLOT



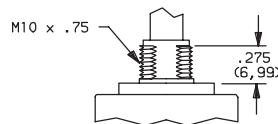
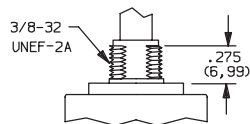
**NOTE:** Actuators shown in position 1, fully CCW.

## MOUNTING STYLE

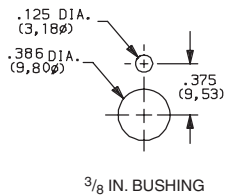


**R** 3/8-32 THREAD

**M** M10 x .75 METRIC

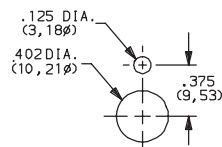


### PANEL MOUNTING



3/8 IN. BUSHING

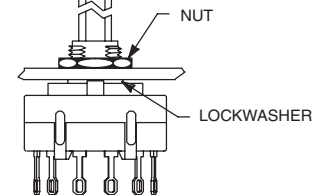
### PANEL MOUNTING



METRIC BUSHING

### 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.



Third Angle  
Projection

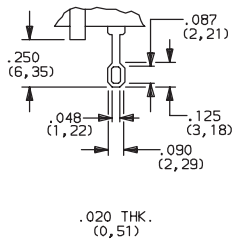
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

# A Series

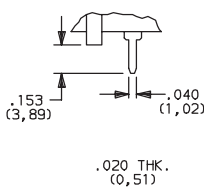
## 1-4 Pole Rotary Switches

### TERMINATIONS

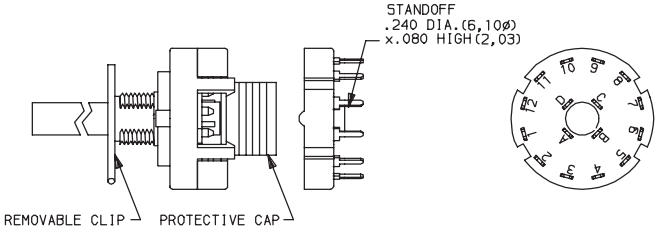
**Z** SOLDER LUG



**C** PC THRU-HOLE

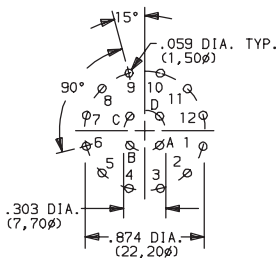


**MC** MODULAR BASE (for wave soldering)

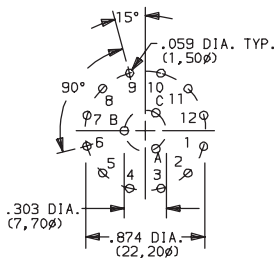


**NOTE:** Switches with 'C' or 'MC' terminations have additional terminal no. 9 as switch support only. This terminal is not connected electrically inside switch. Solder and clean switch base on PC board with other components, then snap on housing/actuator assembly. See page K-7 for installation instructions.

### PC MOUNTING



4P MODEL  
SP MODEL (omit terminals B, C & D)  
DP MODEL (omit terminals B & D)



3P MODEL


### CONTACT MATERIAL

Option Code	Contact & Terminal Material	Typical Usage	Rating	Cycles
<b>Q</b>	Silver <sup>2</sup>	Power	SWITCH – 2.5 AMPS @ 125 VAC UL/CSA CARRY – 5 AMPS CONTINUOUS	6,000
			SWITCH – 350 mA @ 125 VDC (UL/CSA) CARRY – 5 AMPS CONTINUOUS	15,000
<b>B</b>	Gold <sup>1</sup>	Low level/ Dry circuit	0.4 VA MAX. @ 20 V AC OR DC MAX	15,000
<b>G</b>	Gold over silver <sup>3</sup>	Low level/ Dry circuit or power	0.4 VA MAX. @ 20 V AC OR DC MAX	15,000
			SWITCH – 350 mA @ 125 VDC (UL/CSA) CARRY – 5 AMPS CONTINUOUS	15,000
			SWITCH – 2.5 A @ 125 VAC (UL/CSA) CARRY – 5 AMPS CONTINUOUS	6,000

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

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

# A Series 1-4 Pole Rotary Switches

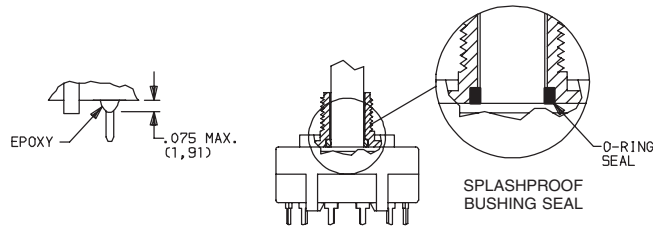
## FUNCTION

**NONE** NO SEAL

**E** EPOXY SEAL

**F** SPLASHPROOF BUSHING SEAL

**K** EPOXY & SPLASHPROOF BUSHING SEAL



### 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

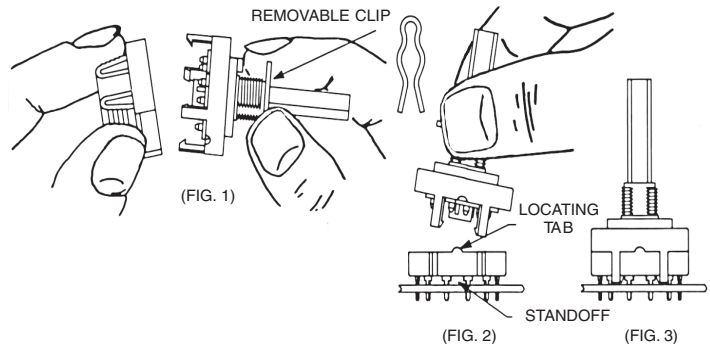
1. Insert switch base only into PC board.
2. Do not bend terminals.
3. Wave soldering recommended at 500F solder temperature.
4. Hand solder at 500F, 10 sec. max./terminal.

#### 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.

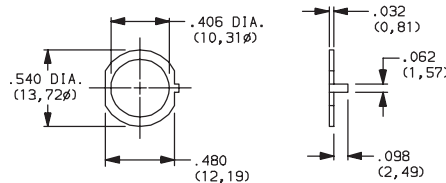
#### Switch Assembly

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



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



9 Nov 20



K

Rotary



# 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

	Silver	Gold
SWITCHING MODE:	BBM	BBM
MAX. SWITCHING POWER	5 VA	0.5 VA
MAX. SWITCHING CURRENT:	150 mA	20 mA
MAX. CARRYING CURRENT:	5 A	1 A
NOMINAL VOLTAGE AT 50 Hz	60 V	25 V
CONTACT RESISTANCE:	< 150 mΩ	< 150 mΩ
DIELECTRIC STRENGTH AT 50 Hz BETWEEN CONTACTS AND GROUND TERMINALS:	500 V r	500 V r
INSULATION RESISTANCE BETWEEN CONTACTS OR CONTACTS AND FRAME (500 V =):	10 <sup>9</sup> Ω	10 <sup>9</sup> Ω
NO. OF OPERATIONS:	10,000	10,000
BOUNCE:	< 5 ms	< 5 ms

### 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  
 HARDWARE: Stop pin: Aluminum. Ball & Spring: Stainless steel.  
 Washer: PA. Nut: Brass.

### Environmental Data

OPERATING TEMPERATURE: –20°C to + 70°C –20°C to + 70°C  
 STORAGE TEMPERATURE: –40°C to + 85°C –40°C to + 85°C

**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.

<b>Designation</b> <b>RTA</b>		<b>Indexing</b> <b>2</b> 22.5 index (coded only) <b>3</b> 30° index (12 positions max.) <b>4</b> 36° index (10 positions max.)	
<b>Termination</b> <b>P</b> With PC Thru-hole <b>H</b> Horizontal with PC Thru-hole		<b>Contact Material</b> <b>S</b> Silver plated, matte-tin terminal <b>P</b> Gold plated, matte-tin terminal	
<b>Switch Function</b> <b>1W12</b> SP, 30° Index, 12 pos. no stop <b>1W10</b> SP, 36° Index, 10 pos. no stop <b>1S02</b> SP, 30° /36° Index, 2 pos. <b>1S03</b> SP, 30° /36° Index, 3 pos. <b>1S04</b> SP, 30° /36° Index, 4 pos. <b>1S05</b> SP, 30° /36° Index, 5 pos. <b>1S06</b> SP, 30° /36° Index, 6 pos. <b>1S07</b> SP, 30° /36° Index, 7 pos. <b>1S08</b> SP, 30° /36° Index, 8 pos. <b>1S09</b> SP, 30° /36° Index, 9 pos. <b>1S10</b> SP, 30° /36° Index, 10 pos. <b>1S11</b> SP, 30° Index, 11 pos. <b>1S12</b> SP, 30° Index, 12 pos. <b>2S02</b> DP, 30° /36° Index, 2 pos. <b>2S03</b> DP, 30° /36° Index, 3 pos. <b>2S04</b> DP, 30° /36° Index, 4 pos. <b>2S05</b> DP, 30° /36° Index, 5 pos. <b>2S06</b> DP, 30° Index, 6 pos.		<b>Actuator (max.)</b> <b>25N</b> .984 (25,0) with screwdriver slot <b>50N</b> 1.97 (50,0) with screwdriver slot <b>FLS</b> Flush shaft with screwdriver slot and position indicator <b>25F</b> .984 (25,0) Shaft with flat <b>06F</b> .236 (6,0) Shaft with flat	
<b>Mounting Style</b> <b>W</b> Without bushing <b>R</b> 3/8-32 Threaded Bushing <b>M</b> M10x.75 Metric Threaded Bushing <b>A</b> 3/8-32 Threaded Bushing with Offset Bracket <b>B</b> M10x.75 Metric Threaded Bushing with Offset Bracket		<b>Actuator (max.)</b> <b>C</b> 3/8-32 Threaded Bushing with Straight Bracket <b>D</b> M10x.75 Metric Threaded Bushing with Straight Bracket	

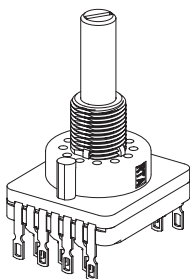


# RTA Series 1-4 Poles Coded Rotary Switches

## DESIGNATION



### RTA

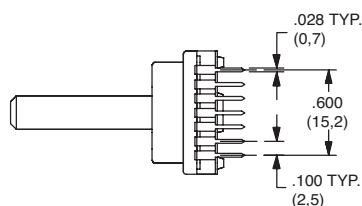
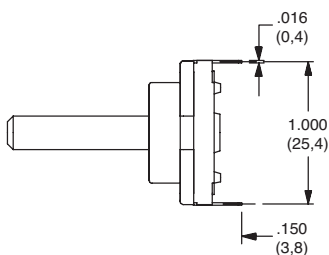
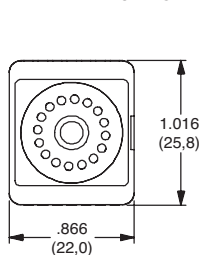


## TERMINATION



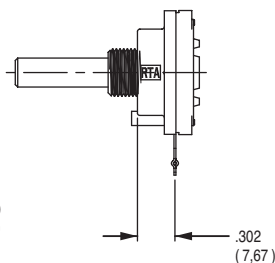
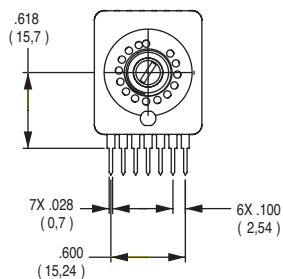
### P

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. 36° 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.

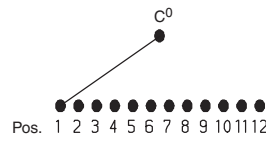
# RTA Series

## 1-4 Poles Coded Rotary Switches

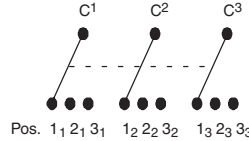
### SWITCH FUNCTION

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

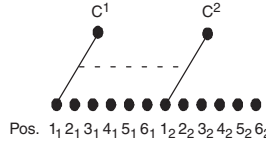
SP MODELS SCHEMATIC



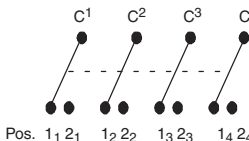
3P MODELS SCHEMATIC



DP MODELS SCHEMATIC



4P MODELS SCHEMATIC

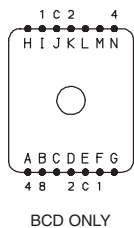


MODEL NO.	SWITCH FUNCTION	INDEX
<b>EW10</b>	Direct + complement, No stop	36°
<b>EW12</b>	Direct + complement, No stop	30°
<b>ES__</b>	Direct + complement, with stop (specify stop position)	30° & 36°

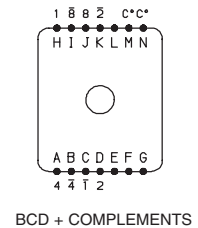
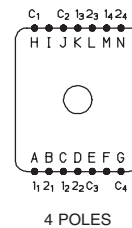
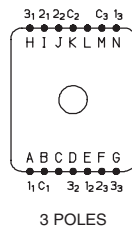
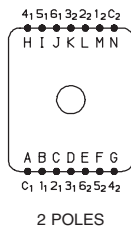
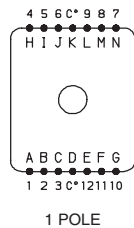
NO. POLES	MODEL NO.	SWITCH FUNCTION	INDEX
DP	<b>2W05</b>	5 Positions No Stop	30°/36°
	<b>2W06</b>	6 Positions No Stop	30°
	<b>2S02</b>	2 Positions	30°/36°
	<b>2S03</b>	3 Positions	30°/36°
	<b>2S04</b>	4 Positions	30°/36°
	<b>2S05</b>	5 Positions	30°/36°
	<b>2S06</b>	6 Positions	30°
4P	<b>4S02</b>	2 Positions	30°/36°

22.5°	30°	36°		Pos.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Term.	Term.	Term.																		
E,J	M,N	L,N		C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
F,I	H	D		1		.		.		.		.		.		.		.		.
D,K	D	B		2			.	.			.	.			.	.		.		.
A,N	A	I		4					.	.	.	.				.	.	.	.	.
B	J	J		8								.	.	.	.	.	.	.	.	.
—	C	K		1	.		.		.		.	.	.	.	.	.	.	.	.	.
—	K	H		2	.	.			.	.			.	.		.	.			
—	B	A		4	.	.	.	.					.	.	.	.	.			
—	I	C		8	.	.	.	.	.	.	.	.								

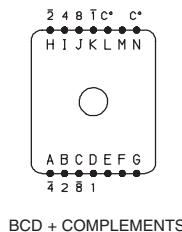
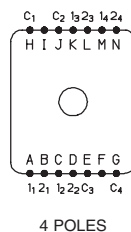
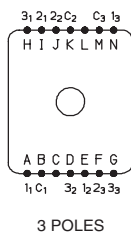
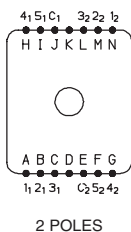
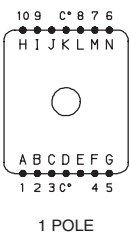
#### Indexing Option Code 2, 22.5 INDEXING ANGLE PCB LAYOUT



#### Indexing Option Code 3, 30 INDEXING ANGLE PCB LAYOUT



#### Indexing Option Code 4, 36 INDEXING ANGLE PCB LAYOUT



**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.



Third Angle Projection

Dimensions are shown: Inch (mm)

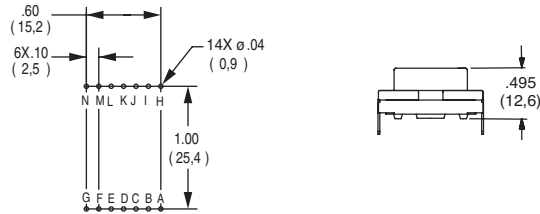
Specifications and dimensions subject to change

# RTA Series 1-4 Poles Coded Rotary Switches

## MOUNTING STYLE

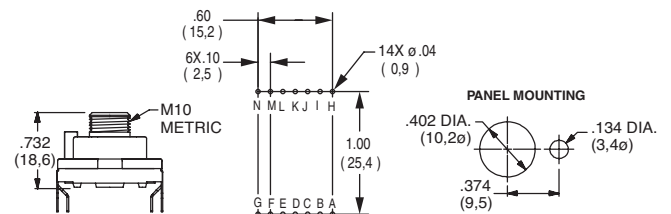


### W WITHOUT BUSHING



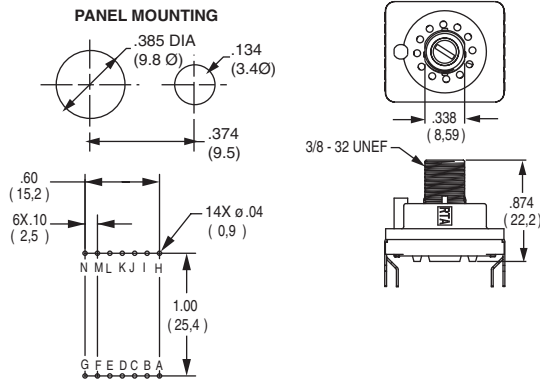
Note: W mounting style not available with H termination.

### M M10 x .75 METRIC THREADED BUSHING



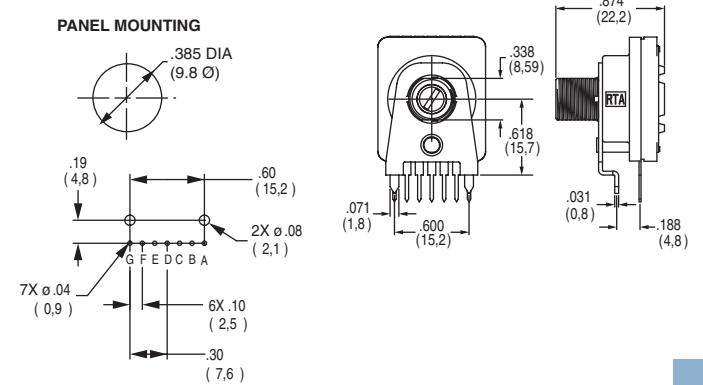
Note: M mounting style not available with H termination.

### R 3/8-32 THREADED BUSHING



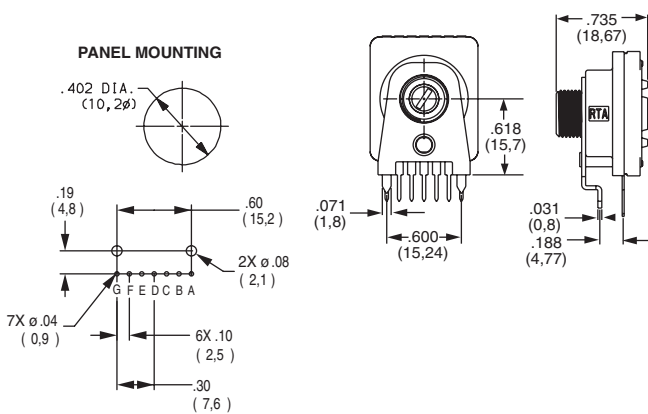
Note: R mounting style not available with H termination.

### A 3/8-32 THREADED BUSHING WITH BRACKET



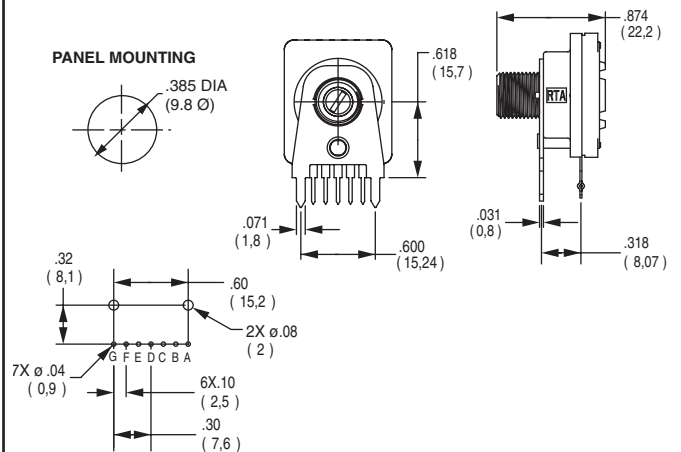
Note: A mounting style only available with H termination.

### B M10 x .75 METRIC THREADED BUSHING WITH BRACKET

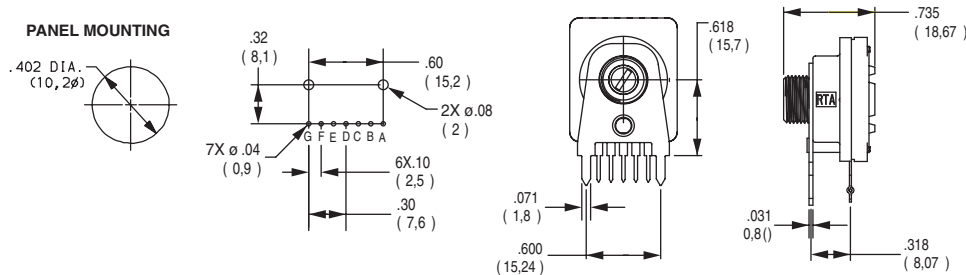


Note: B mounting style only available with H termination.

### C 3/8-32 THREADED BUSHING WITH STRAIGHT BRACKET



### D M10 x .75 METRIC THREADED BUSHING WITH STRAIGHT BRACKET



Third Angle  
Projection

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



K

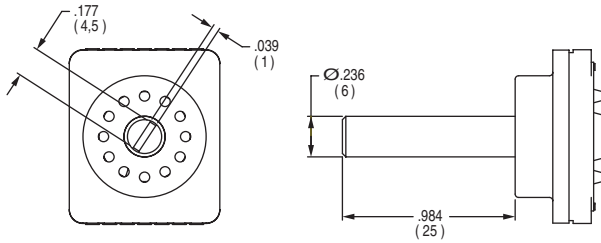
Rotary

# RTA Series

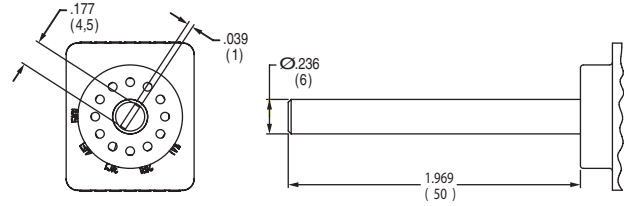
## 1-4 Poles Coded Rotary Switches

### ACTUATOR

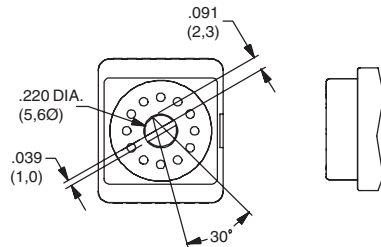
#### 25N .984 (25,0) WITH SCREWDRIVER SLOT



#### 50N 1.97 (50,0) WITH SCREWDRIVER SLOT

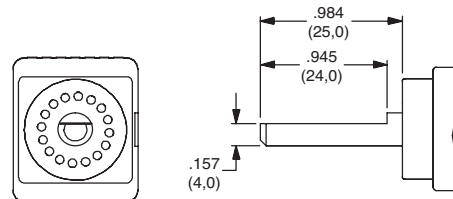


#### FLS FLUSH SHAFT WITH SCREWDRIVER SLOT AND POSITION INDICATOR



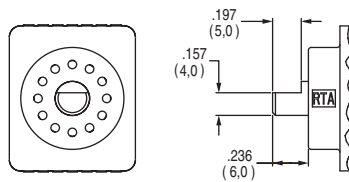
Note: only available with "W" Mounting Style

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



Note: only available with "W" Mounting Style

#### 06F .236 (6,0) SHAFT WITH FLAT



Note: only available with "W" Mounting Style

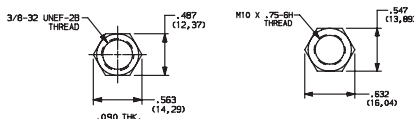
### CONTACT MATERIAL

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

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

### AVAILABLE HARDWARE

#### Mounting Nuts



PART NO.  
**472706201**  
Standard

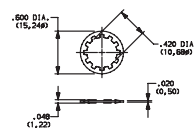
PART NO.  
**495100201**  
Metric

#### Stop pins



PART NO.  
**Y200300200PCH**

#### Lockwasher



PART NO.  
**472800202**

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



Third Angle Projection

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

# M Series Half-inch Rotary Switches

## 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



Models Available

## 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).

**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 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. See page K-16 for additional contact materials.

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.

<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> </div>			
<b>Switch Function</b> <b>MA00</b> SP, 10 pos., 36° <b>MA02</b> SP, 2 pos., 36° <b>MA03</b> SP, 3 pos., 36° <b>MA04</b> SP, 4 pos., 36° <b>MA05</b> SP, 5 pos., 36° <b>MA06</b> SP, 6 pos., 36° <b>MA10</b> SP, 10 pos., 36° <b>MB00</b> DP, 5 pos., 36° <b>MB03</b> DP, 3 pos., 36° <b>MB04</b> DP, 4 pos., 36° <b>MB05</b> DP, 5 pos., 36° <b>MC00</b> SP, 12 pos., 30° <b>MC03</b> SP, 3 pos., 30° <b>MC07</b> SP, 7 pos., 30° <b>MC12</b> SP, 12 pos., 30° <b>MD00</b> DP, 6 pos., 30° <b>MD06</b> DP, 6 pos., 30° <b>ME00</b> SP, 10 pos., 36° <b>ME04</b> SP, 4 pos., 36° <b>MF00</b> DP, 5 pos., 36° <b>MG00</b> SP, 12 pos., 30° <b>MH00</b> DP, 6 pos., 30°		<b>Actuator &amp; Bushing</b> <b>L1</b> .650" long, flatted <b>L2</b> Screwdriver slot, flush <b>L3</b> .650" long, round <b>S1</b> .650" long, flatted <b>S2</b> Screwdriver slot, flush <b>S3</b> .650" long, round <b>S6</b> .785" long, slot	
		<b>Short/Non-short</b> <b>N</b> Non-shorting contacts	
		<b>Terminations</b> <b>Z</b> Solder lug <b>C</b> PC Thru-hole	
		<b>Contact Material</b> <b>Q</b> Silver <b>G</b> Gold over silver	
		<b>Seal</b> <b>D</b> No seal <b>F</b> Splashproof shaft & panel seal (IP67)	



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



K

Rotary

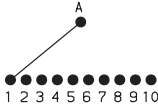
# M Series

## Half-inch Rotary Switches

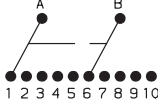
SWITCH FUNCTION

36° INDEXING			
NO. POLES	MODEL NO. WITH STOP PINS	MODEL NO. WITH STOP RINGS	SWITCH FUNCTION
SP	MA00	ME00	10 Positions No Stops
	MA02	—	2 Positions
	MA03	—	3 Positions
	MA04	ME04	4 Positions
	MA05	—	5 Positions
	MA06	—	6 Positions
	MA10	—	10 Positions
DP	MB00	MF00	5 Positions No Stops
	MB03	—	3 Positions
	MB04	—	4 Positions
	MB05	—	5 Positions

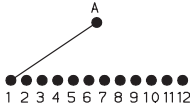
SP MODELS 36° INDEXING SCHEMATIC



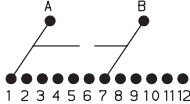
DP MODELS 36° INDEXING SCHEMATIC



SP MODELS 30° INDEXING SCHEMATIC



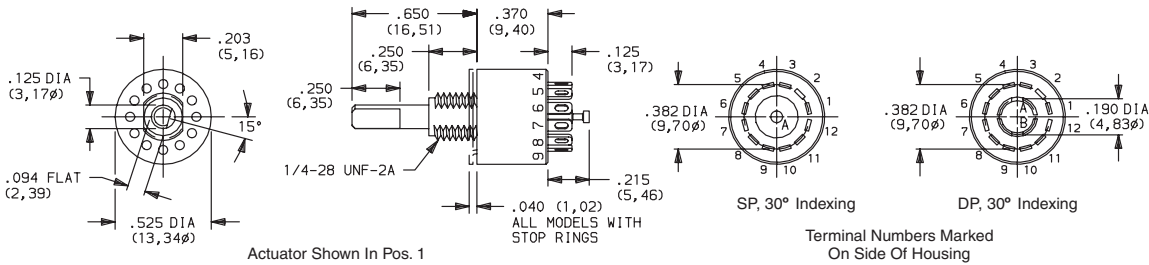
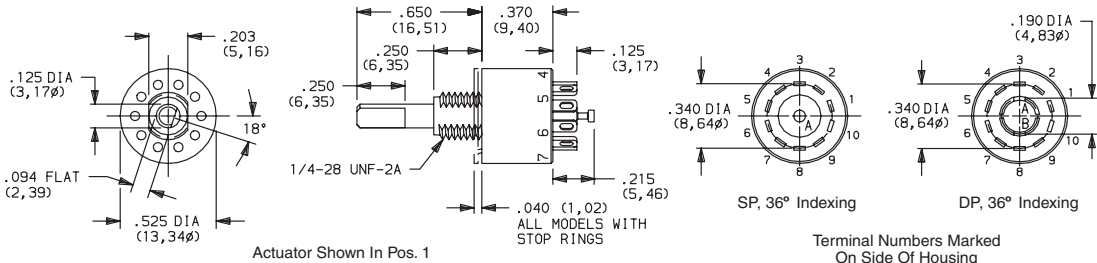
DP MODELS 30° INDEXING SCHEMATIC



30° INDEXING			
NO. POLES	MODEL NO. WITH STOP PINS	MODEL NO. WITH STOP RINGS	SWITCH FUNCTION
SP	MC00	MG00	12 Positions No Stops
	MC03	—	3 Positions
	MC07	—	7 Positions
	MC12	—	12 Positions
DP	MD00	MH00	6 Positions No Stops
	MD06	—	6 Positions

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”.



Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change

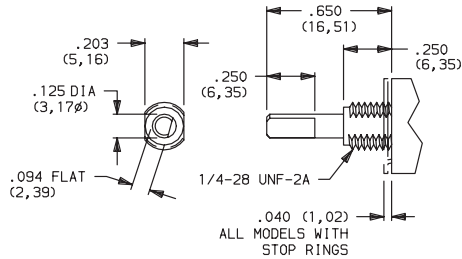


# M Series Half-inch Rotary Switches

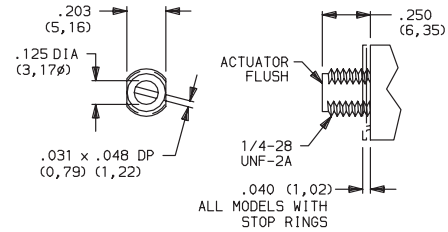
## ACTUATOR (ZINC ALLOY)



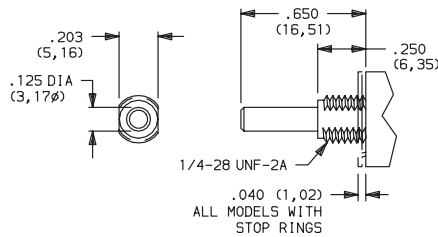
### L1 .650" LONG, FLATTED



### L2 SCREWDRIVER SLOT, FLUSH



### L3 .650" LONG, ROUND

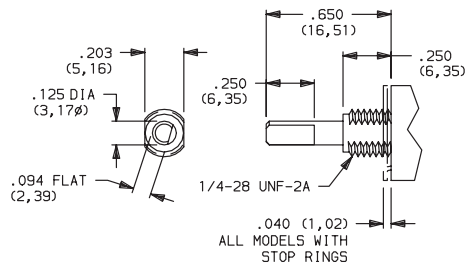


All actuators shown in pos. 1

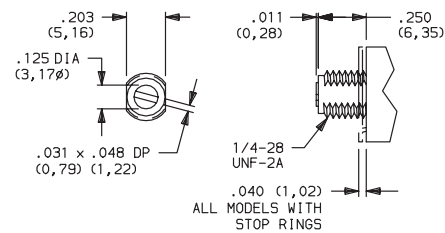
## ACTUATOR (STAINLESS STEEL)



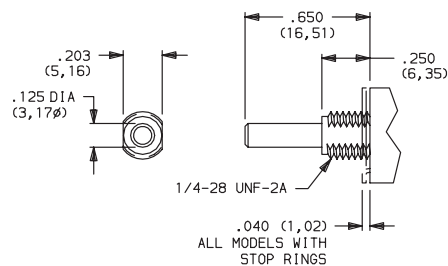
### S1 .650" LONG, FLATTED



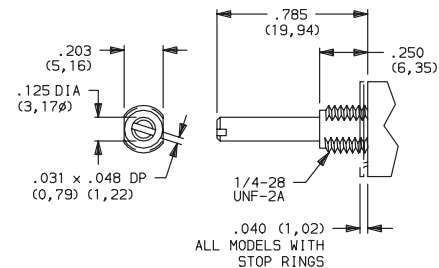
### S2 SCREWDRIVER SLOT, FLUSH



### S3 .650" LONG, ROUND



### S6 .785" LONG, SLOT



All actuators shown in pos. 1

All models  when ordered with stainless steel actuators.



Third Angle  
Projection

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



# M Series Half-inch Rotary Switches

## SHORTING/NON-SHORTING CONTACTS



### N NON-SHORTING CONTACTS

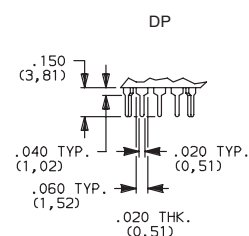
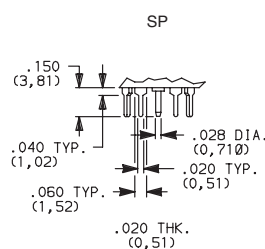
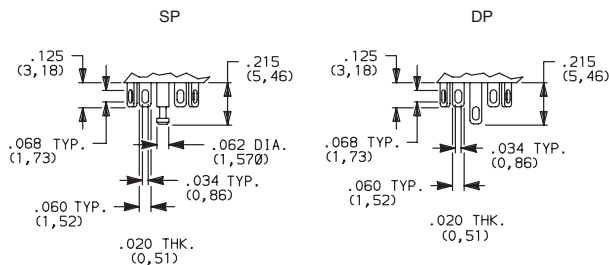
Break-before-make

## TERMINATIONS

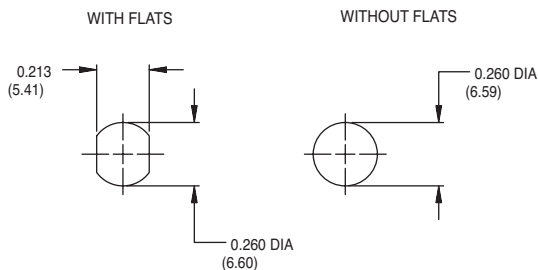


### Z SOLDER LUG

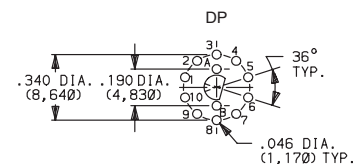
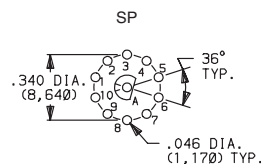
### C PC THRU-HOLE



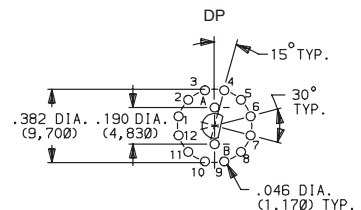
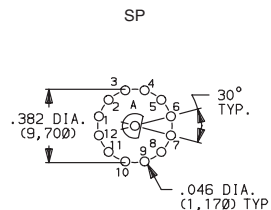
### PANEL MOUNTING



### PC MOUNTING 36° INDEXING



### PC MOUNTING 30° INDEXING



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.

## CONTACT MATERIAL



OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATING	
<b>Q</b>	SILVER <sup>1,2</sup>	SILVER <sup>2</sup>	POWER	CARRY: 6 AMPS CONTINUOUS. SWITCH: 250 mA @ 125 V AC or 28 V DC.
<b>G</b>	GOLD OVER SILVER <sup>3,4</sup>	GOLD <sup>4</sup>	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 VA MAX. @ 20 V AC or DC MAX. or, CARRY: 6 AMPS CONTINUOUS. SWITCH: 250 mA @ 125 V AC or 28 V DC.

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


<sup>1</sup> MOVABLE CONTACTS: Non-shortng: Copper alloy, silver plated.

<sup>2</sup> STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, silver plated.

<sup>3</sup> MOVABLE CONTACTS: Non-shortng: Copper alloy, with gold plate over nickel plate, over silver plate.

<sup>4</sup> 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.

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



Third Angle Projection

Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change



K

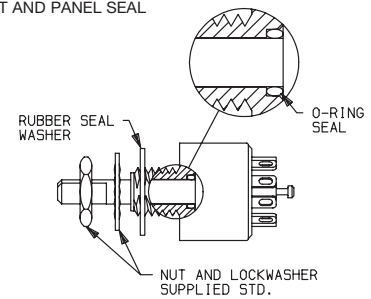
Rotary

# M Series Half-inch Rotary Switches

SEAL 

**D** NO EPOXY SEAL

**F** SPLASHPROOF SHAFT AND PANEL SEAL  
IP67 approved



## Setting Stops With Stop Pins

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

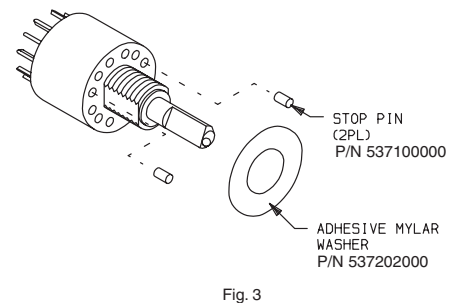
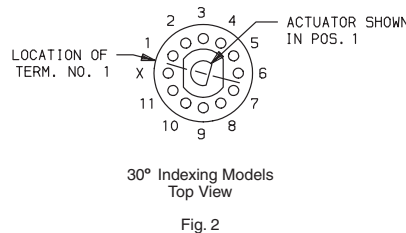
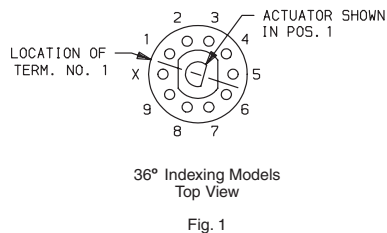
The number of switch positions or stops are adjustable by means of stop pins provided with each switch. Switches are normally shipped with stop pins and hardware in bulk, not installed. Without stop pins, switches have full 360° rotation and no stops. Note that all two pole models begin to repeat when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

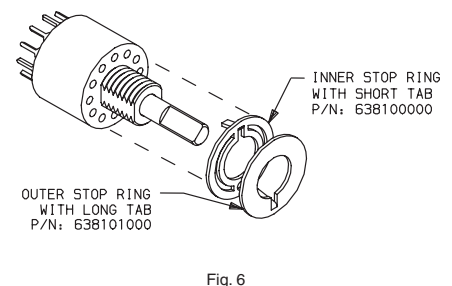
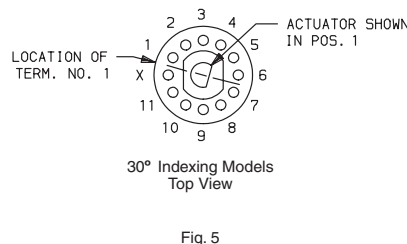
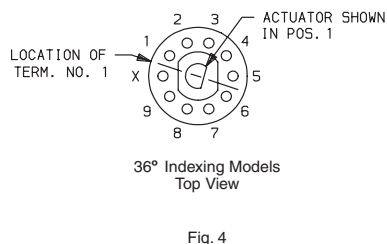
To set stops refer to figures 4 & 5. Orient switch so that terminal no. 1 is as shown. Turn actuator to pos. 1 using flats on bushing and terminal no. 1 as reference. See figure 6 and install inner stop ring with short tab in hole designated 'X'. Install outer stop ring with long tab in hole number corresponding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



Models Available

## 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 m  $\Omega$  typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10<sup>9</sup>  $\Omega$  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.

### Switch Function

- R100** SP, 36° Index, 10 pos. no stops
- R103** SP, 36° Index, 3 pos.
- R104** SP, 36° Index, 4 pos.
- R108** SP, 36° Index, 8 pos.
- R203** DP, 36° Index, 3 pos.
- R204** DP, 36° Index, 4 pos.
- R205** DP, 36° Index, 5 pos.

### Actuator

- 07** .500" high with .156" flat
- 05** .375" high with .156" flat
- 15** Screwdriver slot without bushing

### Mounting Style

- RR** 3/8-32 threaded bushing
- RN** PC without bushing
- RS** PC without bushing

### Terminations

- 03** Solder lug with hole
- 01** Solder lug with notch
- 02** PC Thru-hole
- WC** Wire Lead

### Contact Material

- Q** Silver
- B** Gold

### Seal

- NONE** No seal
- E** Epoxy seal



K

Rotary



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

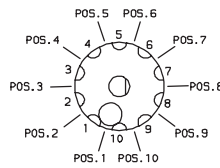
# R Series ROTA-SLIDE® Rotary Switches

## SWITCH FUNCTION



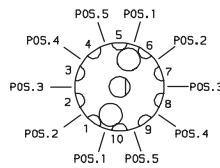
SP MODELS 36° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	<b>R100</b>	10 Position No Stops	All Terminals
	<b>R103</b>	3 Position	10-1-2-3
	<b>R104</b>	4 Position	10-1-2-3-4
	<b>R108</b>	8 Position	10-1-2-3-4-5-6-7-8

SP MODELS 36° INDEXING SCHEMATIC



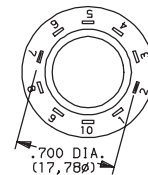
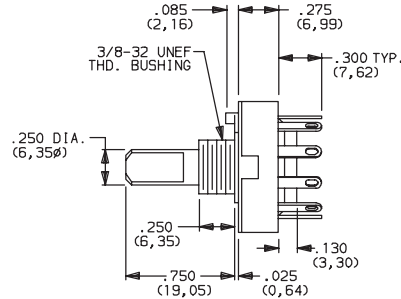
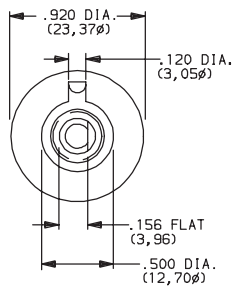
DP MODELS 36° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
DP	<b>R203</b>	3 Position	10-1-2-3, 5-6-7-8
	<b>R204</b>	4 Position	All Terminals
	<b>R205</b>	5 Position	All Terminals

DP MODELS 36° INDEXING SCHEMATIC



All models **C&K** US with all options when ordered with 'Q' contact material.

**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.



TERM. NOS.  
MOLDED ON HOUSING

Part number show: R10007RR03Q

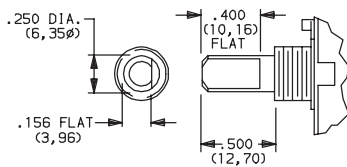
## ACTUATOR



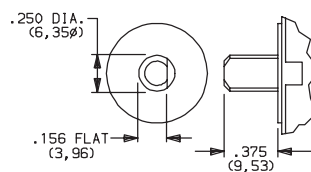
**07** .50019" HIGH WITH .156" FLAT

**05** .375"19 HIGH WITH .156" FLAT

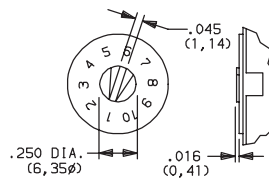
**15** SCREWDRIVER SLOT



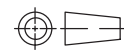
Shown with 'RR' mounting style.  
For mounting styles without bushing,  
add .250 (6,35) to actuator length.



Shown with 'RN' mounting style.



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



Third Angle  
Projection

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

**C&K**

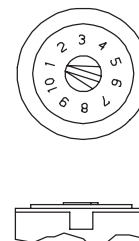
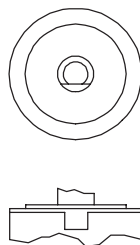
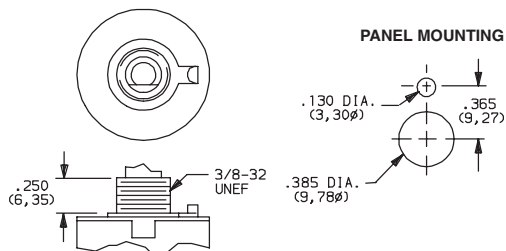
# R Series ROTA-SLIDE® Rotary Switches

## MOUNTING STYLE

**RR** 3/8-32 THREADED BUSHING

**RN** PC WITHOUT BUSHING

**RS** PC SCREWDRIVER SLOT WITHOUT BUSHING



Position numbers and characters are molded on housing.

Mounting nut included (part number 175000100).

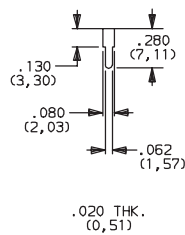
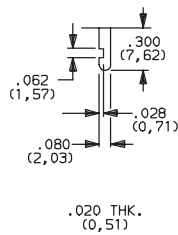
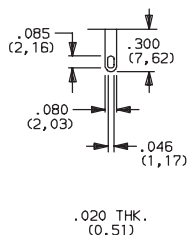
## TERMINATIONS

**03** SOLDER LUG WITH HOLE

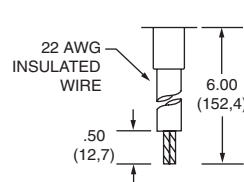
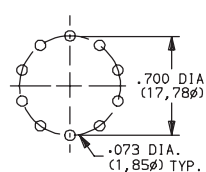
**01** SOLDER LUG WITH NOTCH

**02** PC THRU-HOLE

**WC** WIRE LEAD



### PC MOUNTING



## CONTACT MATERIAL

OPTION CODE	CONTACT AND TERMINAL MATERIAL	RATING	
<b>Q</b>	SILVER <sup>2</sup>	POWER	5 AMPS @ 125 V AC; 2.5 AMPS @ 250 V AC; 0.5 AMP @ 125 V DC (UL/CSA); 1/8 HP @ 125 and 250 VAC (UL/CSA).
<b>B</b>	GOLD <sup>1</sup>	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC or DC MAX.

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

<sup>1</sup> CONTACTS & TERMINALS: Copper, with gold plate over nickel plate.

<sup>2</sup> CONTACTS & TERMINALS: Copper, silver plated. (Standard with all termination options.)

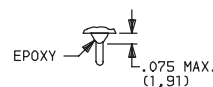
**NOTE:** Any models supplied with Q, B or G contact material are RoHS compliant.

All models **C&K** with all options when ordered with 'Q' contact material.

## SEAL

**NONE** NO SEAL

**E** EPOXY SEAL



Third Angle Projection

Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change

**C&K**

# F Series

## Miniature ROTA-SLIDE® Rotary Switches

### 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



Models Available

### 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 m  $\Omega$  typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10<sup>9</sup>  $\Omega$  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.

**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-22 thru K-24. For additional options not shown in catalog, consult Customer Service Center.

<div>Switch Function</div> <div>FA05 SP, 90° Index, 3 pos.</div> <div>F103 SP, 45° Index, 3 pos.</div> <div>F203 DP, 45° Index, 3 pos.</div> <div>FA01 SPDT, 90° Index</div> <div>FC03 SP, W/Common 90° Index, 3 pos.</div>	<div>Actuator</div> <div>15 Screwdriver slot without bushing</div> <div>08 .585" high with .156" flat</div>	<div>Mounting Style</div> <div>RN PC</div> <div>RS 5/16-32 threaded bushing</div>	<div>Terminations</div> <div>02 PC Thru-hole</div> <div>WC Wire lead</div>	<div>Contact Material</div> <div>Q Silver</div> <div>B Gold</div>	<div>Seal</div> <div>NONE No seal</div> <div>E Epoxy seal</div>
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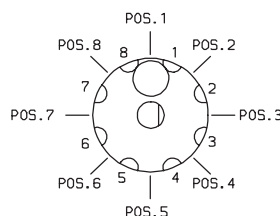
# F Series Miniature ROTA-SLIDE® Rotary Switches

## SWITCH FUNCTION

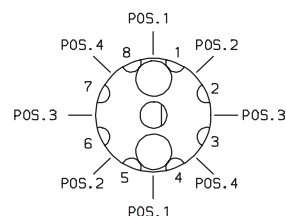


### 45° INDEXING SCHEMATICS

45° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	<b>F103</b>	3 Position	8-1-2-3*
DP	<b>F203</b>	3 Position	All Terminals



F1XX MODELS



F2XX MODELS

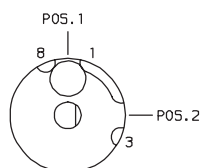
Break-before-make contacts. Terminal numbers are molded on bottom of housing. Actuators are shown in position 1.

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

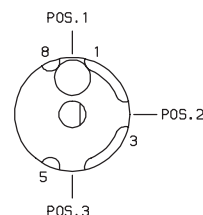
F1XX, F2XX models: No common terminal is present. Switching function is provided by movable contacts shorting adjacent pairs of stationary contacts.

90° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	<b>FA01</b>	SPDT	8-1-3
	<b>FA05</b>	3 Position	8-1-3-5
SP WITH COMMON	<b>FC03</b>	3 Position	C-1,C-2,C-3

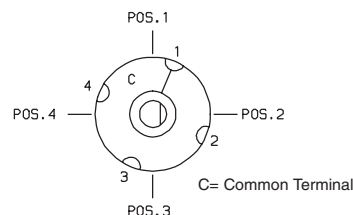
### 90° INDEXING SCHEMATICS



FA01 MODEL



FA05 MODEL



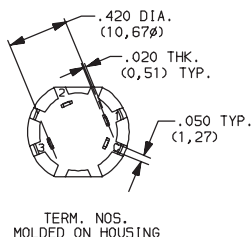
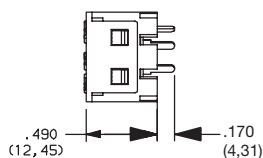
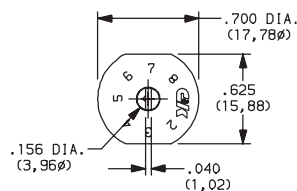
FCXX MODEL

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

FCXX models: Common terminal is present.

FAXX 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.



Part number show: FC0315RN02Q



Third Angle Projection

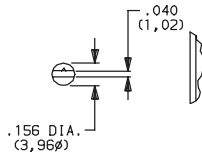
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change



# F Series Miniature ROTA-SLIDE® Rotary Switches

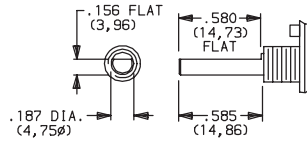
## ACTUATOR

**15** SCREWDRIVER SLOT WITHOUT BUSHING



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

**08** .585" HIGH WITH .156" FLA



Must be ordered with 'RS' mounting style.

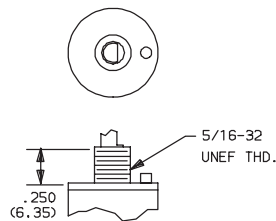
## MOUNTING STYLE

**RN** PC



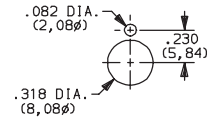
PC mount, no bushing, position numbers molded standard. Shown with '15' actuator; not available with '08' actuator or FCXX models.

**RS** 5/16-32 THREADED BUSHING



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

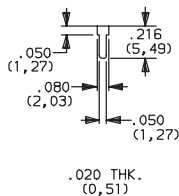
PANEL MOUNTING



5/16 IN. BUSHING

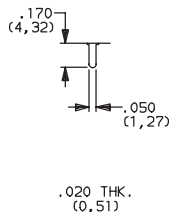
## TERMINATIONS

**02** PC THRU-HOLE



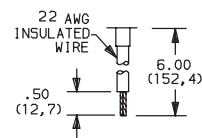
**F1XX, F2XX & FAXX Models**

**02** PC THRU-HOLE



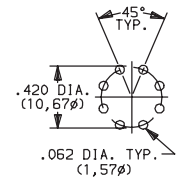
**FCXX Models**

**WC** WIRE LEAD



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

PC MOUNTING



Third Angle  
Projection

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

# F Series

## Miniature ROTA-SLIDE® Rotary Switches


### CONTACT MATERIAL

OPTION CODE	CONTACT AND TERMINAL MATERIAL	RATING	
Q	SILVER <sup>2</sup>	POWER	4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 V AC (UL/CSA).
B	GOLD <sup>1</sup>	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC or DC MAX.

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

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

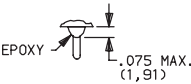
**NOTE:** Any models supplied with Q or B contact material are RoHS compliant.

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

### SEAL

**NONE** NO SEAL

**E** EPOXY SEAL



Not available on FCXX models.



K

Rotary



# 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



Models Available

## 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:  $10^9 \Omega$  min.

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

INDEXING: 45°-one contact models, 8 positions max.; two contact models, 4 positions 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: Copper, silver plated.

CONTACT SPRING: Music wire or stainless steel.

MOUNTING NUT: Steel, zinc plated.

TERMINAL SEAL: Epoxy.

**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.

## 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.

<b>Switch Function</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>H203</b> DP, 45° Index, 3 pos.					
<b>H101</b> SPST, 45° Index					
<b>H202</b> DPDT, 45° Index					
<b>H204</b> DP, 45° Index, 4 pos.					
<b>Actuator</b>					
<b>07</b> .275" high with .156" flat					
<b>Mounting Style</b>					
<b>RR</b> 3/8-40 threaded bushing					
<b>Terminations</b>					
<b>05</b> .110" quick connect					
<b>01</b> Solder lug with notch					
<b>Contact Material</b>					
<b>Q</b> Silver					



K

Rotary

# H Series

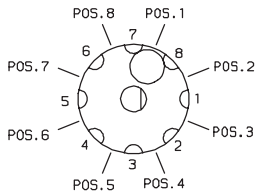
## Power ROTA-SLIDE® Rotary Switches

### SWITCH FUNCTION

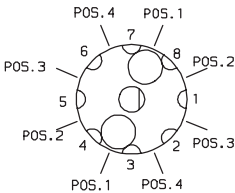
SP MODELS 45° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
SP	H101	SPST	8-1

DP MODELS 45° INDEXING			
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS
DP	H202	DPDT	7-8-1, 3-4-5
	H203	3 Position	All Terminals
	H204	4 Position	All Terminals

SP MODELS 45° INDEXING  
SCHEMATIC

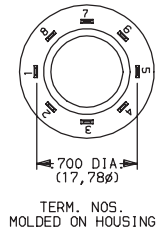
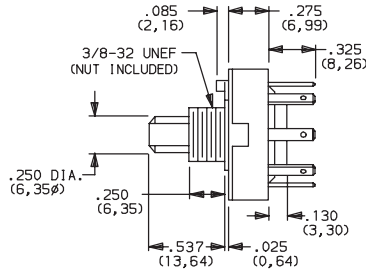
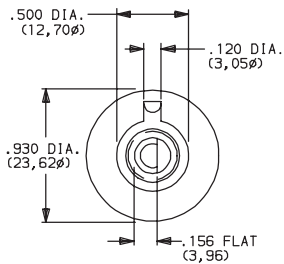


DP MODELS 45° INDEXING  
SCHEMATIC



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.

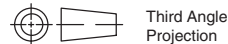
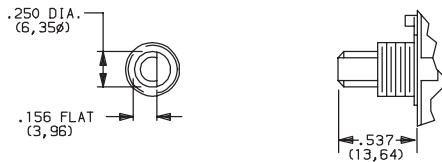
All models  with all options.



Part number shown: H10107RR05Q

### ACTUATOR

07 .275" HIGH WITH .156" FLAT



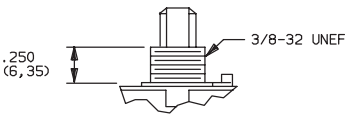
Third Angle  
Projection

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

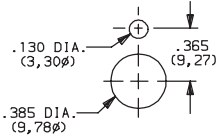
# H Series Power ROTA-SLIDE® Rotary Switches

## MOUNTING STYLE

**RR** 3/8-32 THREADED BUSHING



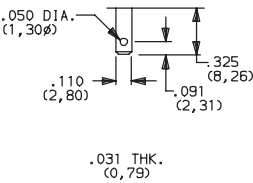
PANEL MOUNTING



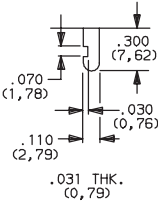
Mounting nut included (part number 925C00000).

## TERMINATIONS

**05** SOLDER LUG WITH HOLE



**01** SOLDER LUG WITH NOTCH



Not available on models with 90° indexing.

## CONTACT MATERIAL

OPTION CODE	CONTACT AND TERMINAL MATERIAL	RATING	
		POWER	
<b>Q</b>	SILVER <sup>1</sup>		12 AMPS @ 125 V AC; 6 AMPS @ 250 V AC; 1 AMP @ 125 V DC.

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

<sup>1</sup> CONTACTS & TERMINALS: Copper, silver plated.

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

All models  with all options.

## RW Series Sub-miniature Rotary Switches



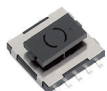
## Features/Benefits

- **8 and 10 positions**
- **SMT version**
- **Subminiature design**

## Typical Applications

- **Digital cameras**
- **Audio & visual equipment**
- **Consumer electronics**
- **Selector dial interface**

PART NUMBER	PACKAGING
<b>RW-108 NS RT</b>	800 pieces per reel

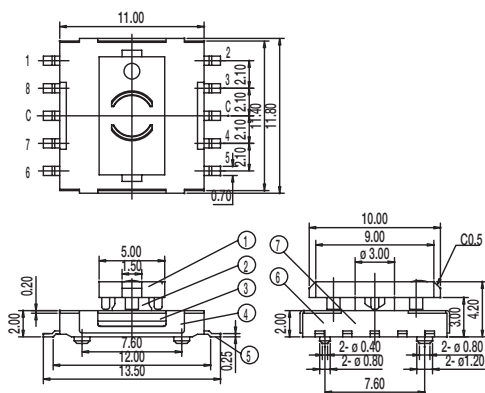


## Specifications

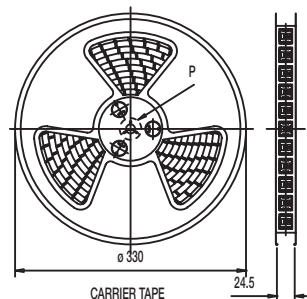
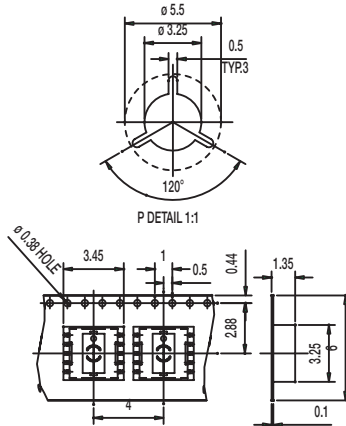
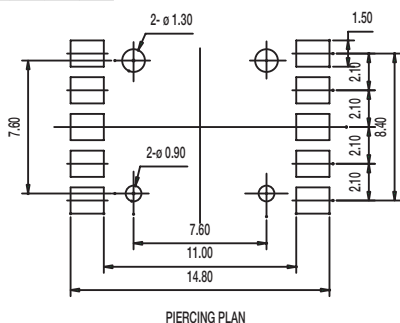
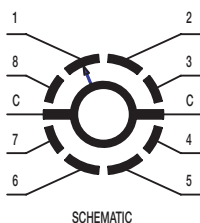
CONTACT ARRANGEMENT: 1 Pole 8 Position  
CONTACT RATING: 0.1 A @ 16 V DC.  
ELECTRICAL LIFE: 10,000 cycles.  
INITIAL CONTACT RESISTANCE: 100 mΩ max.  
INSULATION RESISTANCE: 10M Ω min.  
DIELECTRIC STRENGTH: 100V (50-60 Hz).  
TWIST FORCE: 150 ± 100 gf  
OPERATING TEMPERATURE: -20°C to 70°C

## 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.

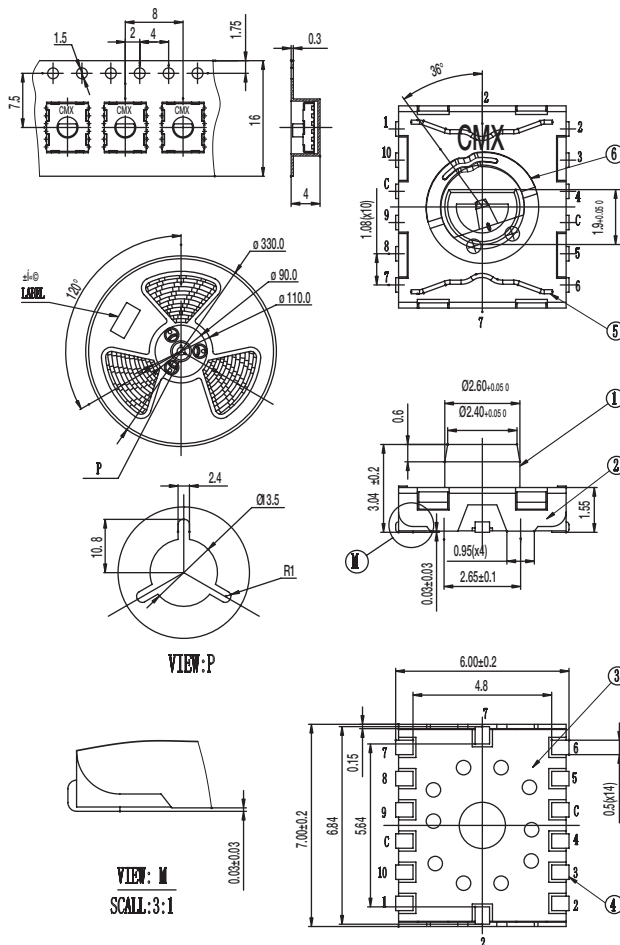
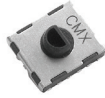
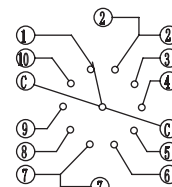
[illegible]

## Specifications

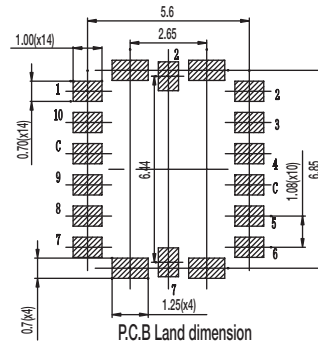
OPERATING TEMPERATURE: -30°C to 80°C

TERMINAL: Silver plated.

PART NUMBER	PACKAGING
<b>RW-1106-NS RT</b>	2,000 pieces per reel

[illegible]

### Circuit Diagram





# 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  $\Omega$  min. 500 V DC  
DIELECTRIC STRENGTH: 500 V AC for 1 minute  
OPERATING FORCE: 270  $\pm$  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.



K

Rotary

#### 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

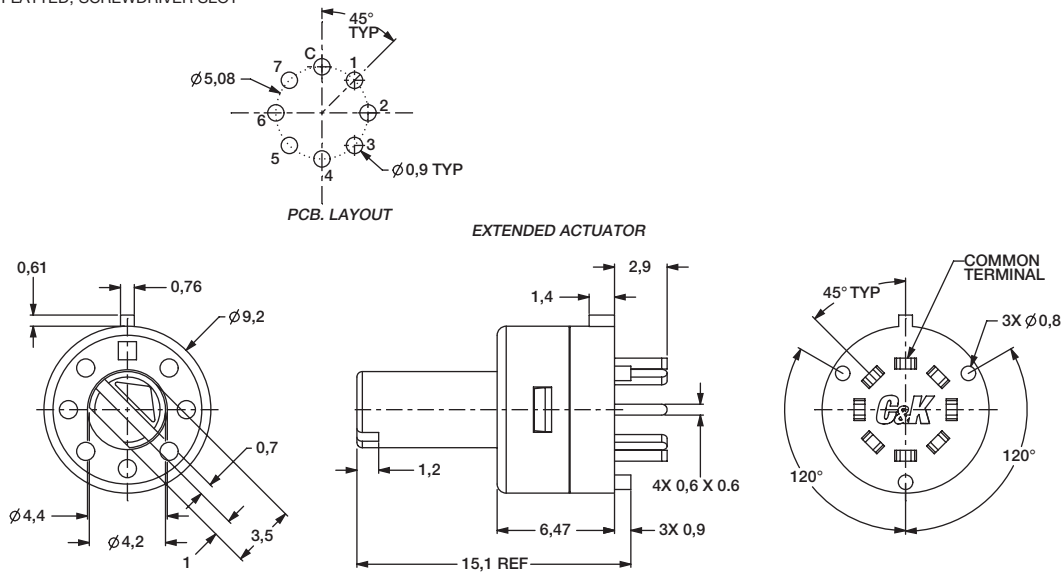
- C** PC Thru-hole

#### Contact Material

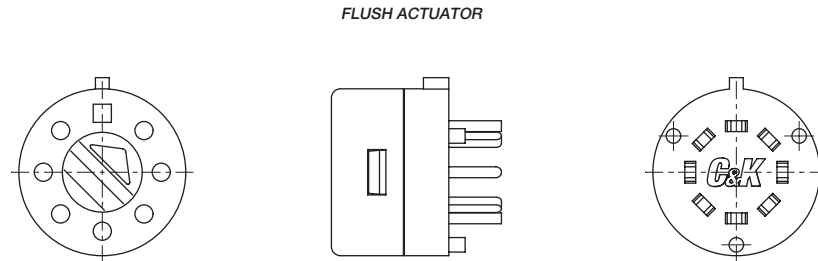
- B** Gold

# RM Series Subminiature Rotary Switches

**77** 7.7 MM HIGH, FLATTED, SCREWDRIVER SLOT

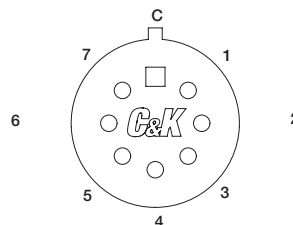


**00** FLUSH, SCREWDRIVER SLOT



ELECTRICAL SCHEMATIC - RM SERIES SWITCHES								
SWITCH FUNCTION	TRAVEL POSITION 0°	TRAVEL POSITION 45°	TRAVEL POSITION 90°	TRAVEL POSITION 135°	TRAVEL POSITION 180°	TRAVEL POSITION 225°	TRAVEL POSITION 270°	TRAVEL POSITION 315°
RM100	C-C(OFF)	C-1	C-2	C-3	C-4	C-5	C-6	C-7
RM101	C-C(OFF)	X	X	X	X	X	X	C-7
RM102	X	C-1	C-2	X	X	X	X	X
RM103	X	C-1	C-2	C-3	X	X	X	X
RM104	X	C-1	C-2	C-3	C-4	X	X	X
RM105	X	C-1	C-2	C-3	C-4	C-5	X	X
RM106	X	C-1	C-2	C-3	C-4	C-5	C-6	X
RM107	X	C-1	C-2	C-3	C-4	C-5	C-6	C-7

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

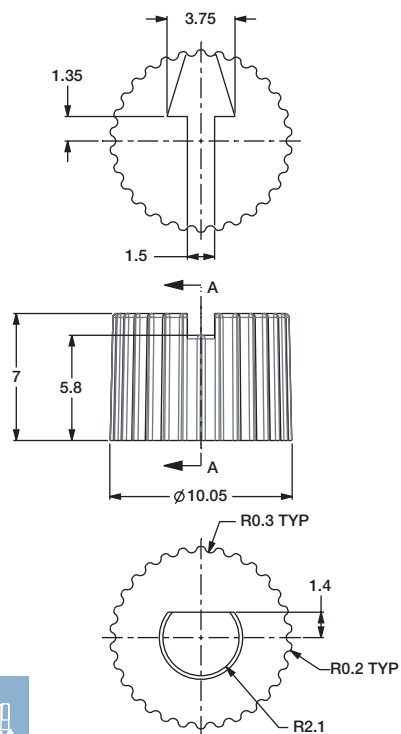


EXTERIOR KEY TAB SHOWN IDENTIFIES "C" (COMMON TERMINAL)

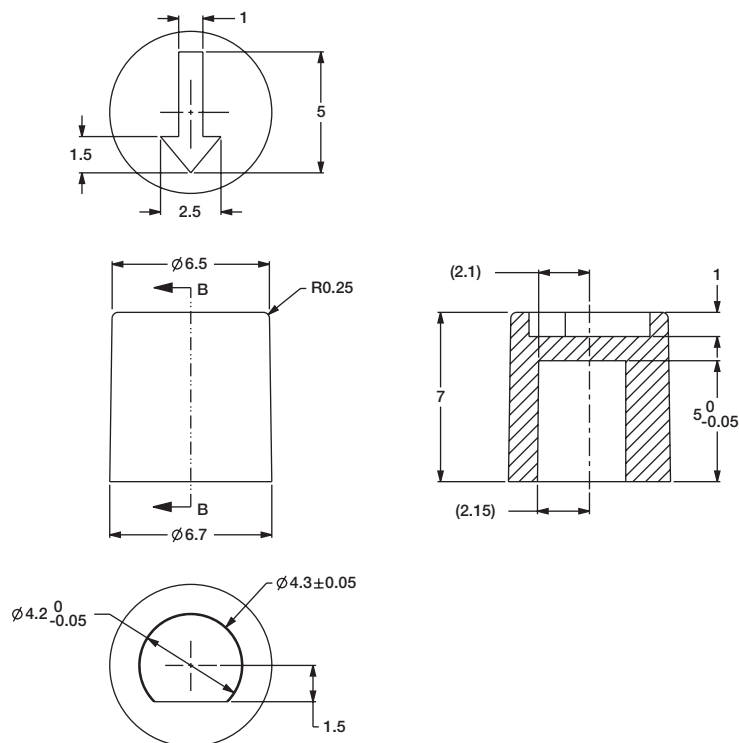
# RM Series Subminiature Rotary Switches

## KNOBS

297F02000



296F02000



K

Rotary

# 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

## Typical Applications

- Automotive interior control
- Industrial equipment
- Test & Instrumentation
- Medical equipment

## 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.

ACTION 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

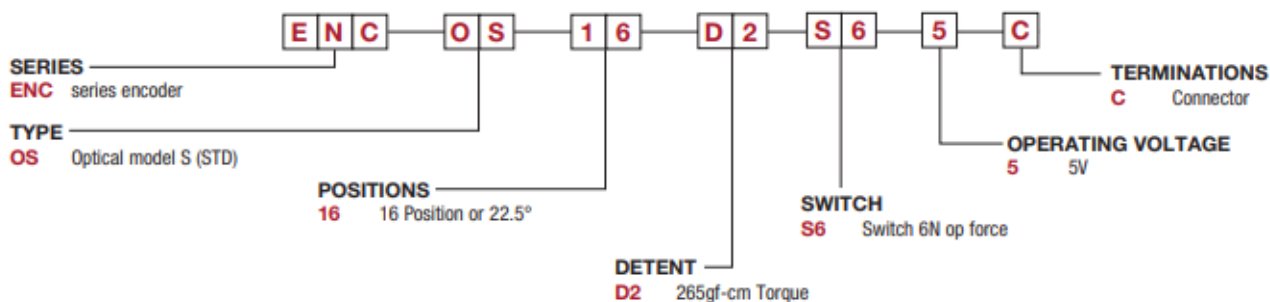
HOUSING UPPER: PA66, V0

HOUSING LOWER: POM, HB

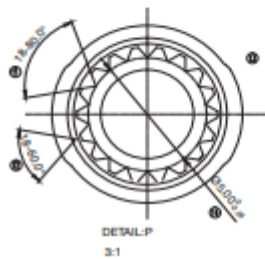
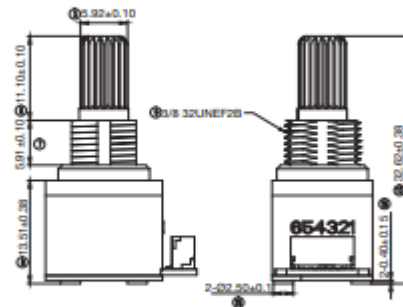
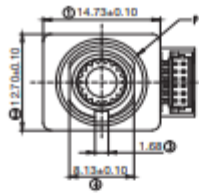
PUSHBUTTON DOME: SUS

## 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.



PART NUMBER	PACKAGING
<b>ENCOS16D2S65C</b>	Tray



K

## Rotary