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**



Models Available

Typical Applications

- Automotive
- Major and small appliances
- Industrial equipment



Specifications

CONTACT RATING: Q contact material: Switch - 2.5 AMPS @ 125 V AC; 1 AMP @ 250 V AC; 350 mA @ 125 V DC (UL/CSA). Carry - 5 AMPS continuous. See page K-6 for additional ratings.

ELECTRICAL LIFE: Up to 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 9 Ω min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level. Operating and storage temp: -30° to 85°C

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

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.

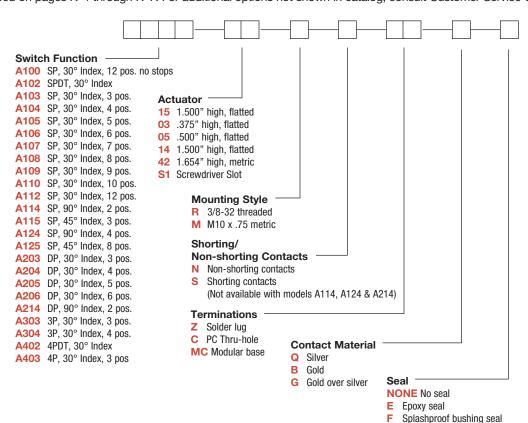
STATIONARY CONTACTS & TERMINALS: Q contact material: Brass, silver plated. See page K-6 for additional contact materials.

HARDWARE: Nut - zinc, nickel plated. Lockwasher - steel, bright zinc plated. Stop Ring - 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-4 through K-7. For additional options not shown in catalog, consult Customer Service Center.





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

Epoxy & splashproof bushing seal

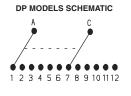
K-3

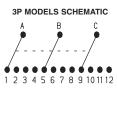
SWITCH FUNCTION

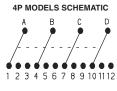
30° INDEXING					
NO. POLES	MODEL NO.	SWITCH FUNCTION	TERMINALS		
	A100	12 Position No Stops	A,1-12		
	A102	SPDT	A,1,2*		
	A103	3 Position	A,1-3*		
	A104	4 Position	A,1-4*		
	A105	5 Position	A,1-5*		
SP	A106	6 Position	A,1-6*		
	A107	7 Position	A,1-7		
	A108	8 Position	A,1-8		
	A109	9 Position	A,1-9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

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SD MODELS SCHEMATIC







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

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

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

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 $_{\mbox{c}}$ $_{\mbox{us}}$ with all options when ordered with 'G' or 'Q' contact material, see page K-6.



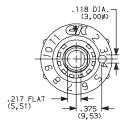
Terminal numbers molded on bottom of housing.

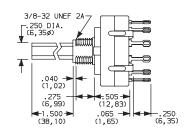
TERMINAL NUMBERS

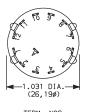


4P MODELS SP MODELS (omit terminals B, C & D) DP MODELS (omit terminals B & D)

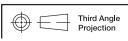
3P MODELS







TERM. NOS. MOLDED ON HOUSING



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



ACTUATOR -100000

15 1.500" HIGH

03 .375" HIGH

05 .500" HIGH

14 1.500" HIGH

42 1.654" METRIC

\$1 SCREWDRIVER SLOT



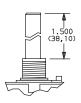




















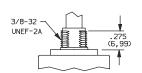


NOTE: Actuators shown in position 1, fully CCW.

MOUNTING STYLE

R 3/8-32 THREAD

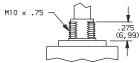
M10 x .75 METRIC

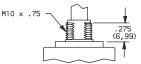


PANEL MOUNTING

3/8 IN. BUSHING

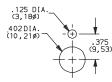
.125 DIA. (3,18ø)



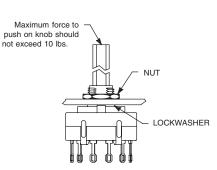




METRIC BUSHING



TYPICAL INSTALLATION



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



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.



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



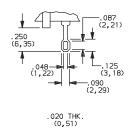
A Series

1-4 Pole Rotary Switches

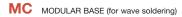
TERMINATIONS

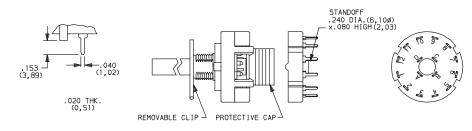


Z SOLDER LUG



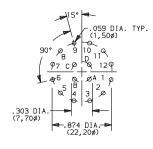
C PC THRU-HOLE



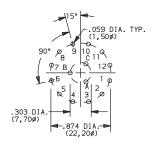


NOTE: Switches with 'C' or 'MC' terminations have additional terminal no. 9 as switch support only. This terminal is not connected electrically inside switch. Solder and clean switch base on PC board with other components, then snap on housing/actuator assembly. See page K-7 for installation instructions.

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
Q Silver ²	Silvar2	Power	SWITCH - 2.5 AMPS @ 125 VAC; 1 AMP @ 250 VAC (UL/CSA) CARRY - 5 AMPS CONTINUOUS	6,000
	Power	SWITCH - 350 mA @ 125 VDC (UL/CSA) CARRY - 5 AMPS CONTINUOUS	15,000	
В	Gold ¹	Low level/ Dry circuit	0.4 VA MAX. @ 20 V AC OR DC MAX	15,000
G G		Low level/ Dry circuit or power	0.4 VA MAX. @ 20 V AC OR DC MAX	15,000
	Gold over silver ³		SWITCH - 350 mA @ 125 VDC (UL/CSA) CARRY - 5 AMPS CONTINUOUS	15,000
		. ,	SWITCH - 2.5 AMPS @ 125 VAC; 1 AMP @ 250 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.

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.

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

All models $\ _{\mathbf{c}}\mathbf{N}^{\circ}_{\mathbf{US}}$ with all options when ordered with 'G' or 'Q' contact material.

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



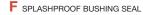
Dimensions are shown: Inch (mm) Specifications and dimensions subject to change



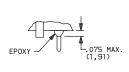
FUNCTION ----

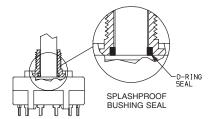












Setting Stops on A112 and A125 Models

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

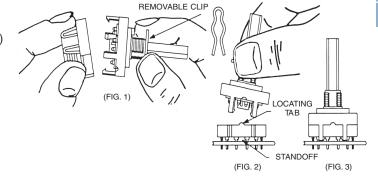
- 1. Insert switch base only into PC board.
- 2. Do not bend terminals.
- 3. Wave soldering recommended at 500F solder temperature.
- 4. Hand solder at 500F, 10 sec. max./terminal.

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)

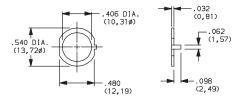
Cleaning

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



AVAILABLE HARDWARE

Stop ring



PART NO. 767B00201

Material: Brass Finish: Nickel plated



Specifications and dimensions subject to change



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

C&K Switches:

A403-03-R-S-C-B-K A114-05-R-N-Z-Q A206S1RNZBK A10003RNCBK A10003RNCGR A10415MNCBE
A10415RNMCQK A30403RNMCGE A40305RNCGE A10315MNZQE A10403MNMCQE A20605MNZG
A20315RNZQ A40342MNCG A30403MSCQ A20305RSCQF A20505RNZQ A10715RSZBE A10042MSCG
A10705MNZQ A10942MSCQ A11542MNZQ A11205RSCQK A11403MNMCGF A10603MNZQE A21403MNMCGF
A20603MSZQ A20442MSCQ A20615RNZBE A21403RNZQ A30342MSCQ A11215RNCB A20415RSCQ
A20603RSCG A21403RNZQE A30314RNCQE A20342MNCG A20305RNCQ A10003RSCQ A20603MNZQ
A11203MNZB A12415MNZQ A30303RNZQ A214S1RNZQ A206S1RNCG A107S1MNZGK A20315RSCQ
A10915RNZQ A20403RNZGK A40342MSZB A102S1RNZQF A10003RNCQK A10003RSZQ A10303RSZQK
A10603RNCGK A21405MNCQE A30403RSCQE A10605RNZQE A10614RNZQE A11005RSCBF A11405MNCQE
A12403MNCQK A20603RNMCQE A11214RNCQK A11203RNCQF A10403RNCQF A12405RNCGK
A10403RNZQF A10503RNCQK A20303RNCQ A102S1RNZQK