

# C&K RTBV Series 1-2 Pole Coded Rotary Switches



## Features/Benefits

- **Totally sealed**
- **Detent angles, 15 , 22.5 , 30 and 36**
- **Multi pole**
- **Coding functions**
- **Robust construction**

## Typical Applications

- **Telecommunications**
- **Military**
- **Instrumentation**
- **Heavy-duty industrial equipment**

## Specifications

CONTACT RATING: S Contact material: Switch: 250mA, 5VA resistive load, Carry: 5 AMPS  
 ELECTRICAL LIFE: Up to 25,000 operations.  
 OPERATING TORQUE: 5Ncm±30% (with 1 module).  
 MECHANICAL STOP RESISTANCE: > 70 Ncm.  
 BUSHING MOUNTING TORQUE: 100 Ncm.  
 CONTACT RESISTANCE: < 100 m Ω.  
 INSULATION RESISTANCE: > 10<sup>9</sup> Ω  
 DIELECTRIC STRENGTH: 500 V rms.

**NOTE:** For the latest information regarding RoHS compliance, please go to: [www.ittcannon.com/rohs](http://www.ittcannon.com/rohs).

**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: PBT thermoplastic and PC thermoplastic  
 STATIONARY CONTACTS & TERMINALS: Nickel alloy, gold or silver plated, insert molded in PBT thermoplastic.  
 ROTOR: Printed circuit, gold or silver plated.  
 ACTUATOR: Steel  
 BUSHING: Brass  
 HARDWARE: Stop pin and spring: Stainless steel

All models are RoHS compliant and compatible.

## 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 L-33 thru L-37. For additional options not shown in catalog, consult Customer Service Center.

**Designation**  
**RTBV**

**Indexing**  
**15** 15°  
**22.5** 22.5°  
**30** 30°  
**36** 36°

**Number of Switch Functions\*\***  
**1** 1 Function  
**2** 2 Functions

**Switch Function**  
**Number of Poles (first digit)**  
**Number of Positions (second & third digit) or code**  
**116** SP, 16 positions  
**112** SP, 12 positions  
**206** DP, 6 positions  
**B** Binary code  
**C** Complement  
**BC** Direct + complement

**Stops**  
**B** Stop with number of positions  
**S** Without

**Mounting Style**  
**AD** Standard bushing for panel mount  
**DE** Sealed bushing for panel mount

**Shaft Diameter**  
**D6** 6 mm (.236)  
**D63** 6.35 mm (.250)

**Option of Shaft (NONE)**  
**M10X5** Shaft with flat

**Actuator Option Angle\* (NONE)**  
**K0** 0° angle  
**K60** 60° angle  
**K90** 90° angle  
**K120** 120° angle  
**K180** 180° angle  
**K270** 270° angle

**Actuator Length**  
**25** 25 mm (.984)

**Contact Material**  
**S** Silver plated  
**G** Gold plated

\* Other angles available by request

\*\* Several functions can be combined. For more information consult us.



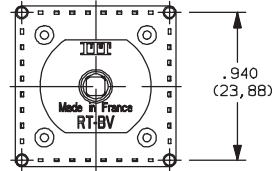
Dimensions are shown: Inch (mm)  
 Specifications and dimensions subject to change

# C&K RTBV Series 1-2 Pole Coded Rotary Switches

DESIGNATION



RTBV



INDEXING



**15** 15° index, 24 POSITIONS MAXIMUM

**22.5** 22.5° index, 16 POSITIONS MAXIMUM

**30** 30° index, 12 POSITIONS MAXIMUM

**36** 36° index, 10 POSITIONS MAXIMUM



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

# C&K RTBV Series 1-2 Pole Coded Rotary Switches

## NUMBER OF SWITCH FUNCTIONS



- 1** 1 FUNCTION
- 2** 2 FUNCTIONS

**NOTE:** Several functions can be combined. For more information consult us.

## NUMBER OF POLES / POSITIONS



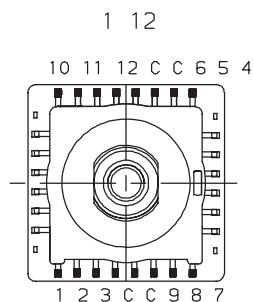
- 116** 22.5 INDEX, SP, 16 POSITIONS
- 112** 30 INDEX, SP, 12 POSITIONS
- 206** 30 INDEX, DP, 6 POSITIONS
- B** BINARY CODE, 15 /22.5 /30 /36
- C** COMPLEMENT, 15 /22.5 /30 /36
- BC** DIRECT + COMPLEMENT, 15 /22.5 /30 /36

SINGLE POLE FUNCTION

|    | C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|----|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | ● | ● |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2  | ● |   | ● |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3  | ● |   |   | ● |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4  | ● |   |   |   | ● |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5  | ● |   |   |   |   | ● |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 6  | ● |   |   |   |   |   | ● |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 7  | ● |   |   |   |   |   |   | ● |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 8  | ● |   |   |   |   |   |   |   | ● |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 9  | ● |   |   |   |   |   |   |   |   | ● |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 10 | ● |   |   |   |   |   |   |   |   |   | ●  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 11 | ● |   |   |   |   |   |   |   |   |   |    | ●  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 12 | ● | ● |   |   |   |   |   |   |   |   |    |    | ●  |    |    |    |    |    |    |    |    |    |    |    |    |
| 13 | ● |   | ● |   |   |   |   |   |   |   |    |    |    | ●  |    |    |    |    |    |    |    |    |    |    |    |
| 14 | ● |   |   | ● |   |   |   |   |   |   |    |    |    |    | ●  |    |    |    |    |    |    |    |    |    |    |
| 15 | ● |   |   |   | ● |   |   |   |   |   |    |    |    |    |    | ●  |    |    |    |    |    |    |    |    |    |
| 16 | ● |   |   |   |   | ● |   |   |   |   |    |    |    |    |    |    | ●  |    |    |    |    |    |    |    |    |
| 17 | ● |   |   |   |   |   | ● |   |   |   |    |    |    |    |    |    |    | ●  |    |    |    |    |    |    |    |
| 18 | ● |   |   |   |   |   |   | ● |   |   |    |    |    |    |    |    |    |    | ●  |    |    |    |    |    |    |
| 19 | ● |   |   |   |   |   |   |   | ● |   |    |    |    |    |    |    |    |    |    | ●  |    |    |    |    |    |
| 20 | ● |   |   |   |   |   |   |   |   | ● |    |    |    |    |    |    |    |    |    |    | ●  |    |    |    |    |
| 21 | ● |   |   |   |   |   |   |   |   |   | ●  |    |    |    |    |    |    |    |    |    |    | ●  |    |    |    |
| 22 | ● |   |   |   |   |   |   |   |   |   |    | ●  |    |    |    |    |    |    |    |    |    |    | ●  |    |    |
| 23 | ● |   |   |   |   |   |   |   |   |   |    |    | ●  |    |    |    |    |    |    |    |    |    |    | ●  |    |
| 24 | ● |   |   |   |   |   |   |   |   |   |    |    |    | ●  |    |    |    |    |    |    |    |    |    |    | ●  |



Rotary



Dimensions are shown: Inch (mm)  
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# C&K RTBV Series 1-2 Pole Coded Rotary Switches

## NUMBER OF POLES / POSITIONS



### DOUBLE POLE FUNCTION

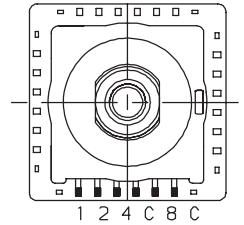
|   | C <sub>1</sub> | 1 <sub>1</sub> | 2 <sub>1</sub> | 3 <sub>1</sub> | 4 <sub>1</sub> | 5 <sub>1</sub> | 6 <sub>1</sub> | C <sub>2</sub> | 1 <sub>2</sub> | 2 <sub>2</sub> | 3 <sub>2</sub> | 4 <sub>2</sub> | 5 <sub>2</sub> | 6 <sub>2</sub> |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | ●              | ●              |                |                |                |                |                | ●              | ●              |                |                |                |                |                |
| 2 | ●              |                | ●              |                |                |                |                | ●              |                | ●              |                |                |                |                |
| 3 | ●              |                |                | ●              |                |                |                | ●              |                |                | ●              |                |                |                |
| 4 | ●              |                |                |                | ●              |                |                | ●              |                |                |                | ●              |                |                |
| 5 | ●              |                |                |                |                | ●              |                | ●              |                |                |                |                | ●              |                |
| 6 | ●              |                |                |                |                |                | ●              | ●              |                |                |                |                |                | ●              |



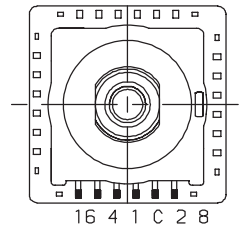
### BINARY DIRECT CODE

|    | C | 1 | 2 | 4 | 8 | 16 |
|----|---|---|---|---|---|----|
| 0  | ● | ● | ● | ● | ● | ●  |
| 1  | ● | ● | ● | ● | ● |    |
| 2  | ● | ● | ● | ● |   |    |
| 3  | ● | ● | ● | ● |   |    |
| 4  | ● | ● | ● | ● |   |    |
| 5  | ● | ● | ● | ● |   |    |
| 6  | ● | ● | ● | ● |   |    |
| 7  | ● | ● | ● | ● |   |    |
| 8  | ● | ● | ● | ● |   |    |
| 9  | ● | ● | ● | ● |   |    |
| 10 | ● | ● | ● | ● |   |    |
| 11 | ● | ● | ● | ● |   |    |
| 12 | ● | ● | ● | ● |   |    |
| 13 | ● | ● | ● | ● |   |    |
| 14 | ● | ● | ● | ● |   |    |
| 15 | ● | ● | ● | ● |   |    |
| 16 | ● | ● | ● | ● |   |    |
| 17 | ● | ● | ● | ● |   |    |
| 18 | ● | ● | ● | ● |   |    |
| 19 | ● | ● | ● | ● |   |    |
| 20 | ● | ● | ● | ● |   |    |
| 21 | ● | ● | ● | ● |   |    |
| 22 | ● | ● | ● | ● |   |    |
| 23 | ● | ● | ● | ● |   |    |

B10 B12 B16



B24



### COMPLEMENT BINARY CODE

|    | C | 1 | 2 | 4 | 8 | 16 |
|----|---|---|---|---|---|----|
| 0  | ● | ● | ● | ● | ● | ●  |
| 1  | ● | ● | ● | ● | ● | ●  |
| 2  | ● | ● | ● | ● | ● | ●  |
| 3  | ● | ● | ● | ● | ● | ●  |
| 4  | ● | ● | ● | ● | ● | ●  |
| 5  | ● | ● | ● | ● | ● | ●  |
| 6  | ● | ● | ● | ● | ● | ●  |
| 7  | ● | ● | ● | ● | ● | ●  |
| 8  | ● | ● | ● | ● | ● | ●  |
| 9  | ● | ● | ● | ● | ● | ●  |
| 10 | ● | ● | ● | ● | ● | ●  |
| 11 | ● | ● | ● | ● | ● | ●  |
| 12 | ● | ● | ● | ● | ● | ●  |
| 13 | ● | ● | ● | ● | ● | ●  |
| 14 | ● | ● | ● | ● | ● | ●  |
| 15 | ● | ● | ● | ● | ● | ●  |
| 16 | ● | ● | ● | ● | ● | ●  |
| 17 | ● | ● | ● | ● | ● | ●  |
| 18 | ● | ● | ● | ● | ● | ●  |
| 19 | ● | ● | ● | ● | ● | ●  |
| 20 | ● | ● | ● | ● | ● | ●  |
| 21 | ● | ● | ● | ● | ● | ●  |
| 22 | ● | ● | ● | ● | ● | ●  |
| 23 | ● | ● | ● | ● | ● | ●  |

C10 C12 C16



C24

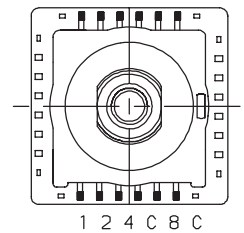


### DIRECT AND COMPLEMENT BINARY CODE

|    | C | 1 | 2 | 4 | 8 | 16 | C | 1 | 2 | 4 | 8 | 16 |
|----|---|---|---|---|---|----|---|---|---|---|---|----|
| 0  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 1  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 2  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 3  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 4  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 5  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 6  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 7  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 8  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 9  | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 10 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 11 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 12 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 13 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 14 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 15 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 16 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 17 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 18 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 19 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 20 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 21 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 22 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |
| 23 | ● | ● | ● | ● | ● | ●  | ● | ● | ● | ● | ● | ●  |

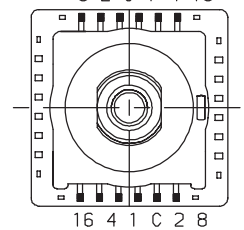
BC10 BC12 BC16

C 8 C 4 2 1



BC24

8 2 C 1 4 16



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

# C&K RTBV Series 1-2 Pole Coded Rotary Switches

## STOPS

**B** STOP WITH NUMBER OF POSITIONS

**S** WITHOUT

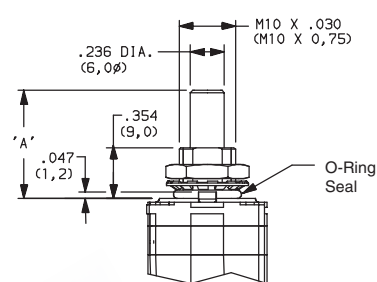
EXAMPLE: 108B08 STOP AT 8TH POSITION

## MOUNTING STYLE

**AD** STANDARD BUSHING FOR PANEL MOUNT

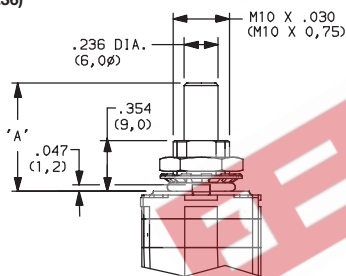


**DE** SEALED BUSHING FOR PANEL MOUNT

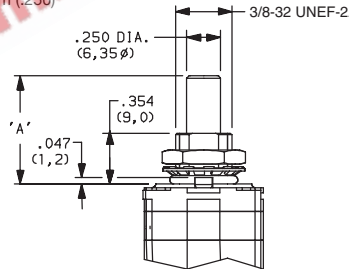


## SHAFT DIAMETER

**D6** 6 mm (.236)

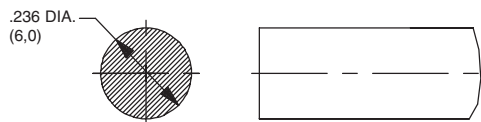


**D63** 6.35 mm (.250)



## OPTION OF SHAFT

**(NONE)**



**M10X5** FLAT



Rotary

# C&K RTBV Series 1-2 Pole Coded Rotary Switches

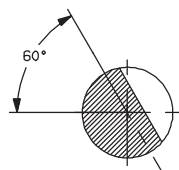
## ACTUATOR OPTION ANGLE



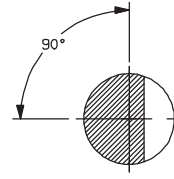
(NONE)



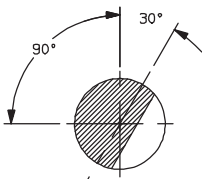
**K0** 0 ANGLE



**K60** 60°



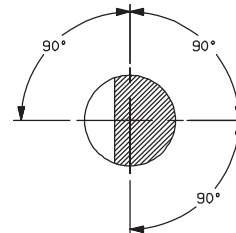
**K90** 90°



**K120** 120°



**K180** 210°



**K270** 300°



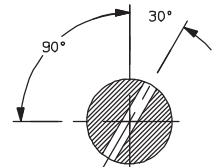
**K0** 0 ANGLE



**K60** 60°



**K90** 90°



**K120** 120°

## ACTUATOR LENGTH



**25** 0,25 mm (.984) STANDARD SHAFT

Other lengths available by request.

## CONTACT MATERIAL



| OPTION CODE | RoHS COMPLIANT* | RoHS COMPATIBLE* | CONTACT AND TERMINAL MATERIAL | RATING                         |  |
|-------------|-----------------|------------------|-------------------------------|--------------------------------|--|
|             |                 |                  |                               | LOW LEVEL/DRY CIRCUIT          | SWITCH: 250 mA, POWER: 5 VA; CARRY: 5 AMPS |
| <b>S</b>    | YES             | YES              | SILVER                        | LOW LEVEL/DRY CIRCUIT          | SWITCH: 250 mA, POWER: 5 VA; CARRY: 5 AMPS |
| <b>G</b>    | YES             | YES              | GOLD                          | LOW LEVEL/DRY CIRCUIT OR POWER | SWITCH: 20 mA, POWER: 0.2 VA; CARRY: 1 AMP |

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



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