

# 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

SWITCHING MODE:

MAX. SWITCHING POWER

MAX. SWITCHING CURRENT:

MAX. CARRYING CURRENT:

NOMINAL VOLTAGE AT 50 Hz

CONTACT RESISTANCE:

DIELECTRIC STRENGTH AT 50 Hz

BETWEEN CONTACTS AND  
GROUND TERMINALS:

INSULATION RESISTANCE BETWEEN

CONTACTS OR CONTACTS  
AND FRAME (500 V  $\Rightarrow$ ):

NO. OF OPERATIONS:

BOUNCE:

### Silver

BBM

5 VA

150 mA

5 A

60 V

< 150 m $\Omega$

500 V r

500 V r

10 $^9$   $\Omega$

10,000

< 5 ms

### Gold

BBM

0.5 VA

20 mA

1 A

25 V

< 150 m $\Omega$

500 V r

500 V r

10 $^9$   $\Omega$

10,000

< 5 ms

### Mechanical Data

MAX. NO. OF BANKS: 1.

OPERATING TORQUE: 5 Ncm $\pm$ 20%.

END STOP TORQUE: < 60 Ncm.

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.

| Designation |  | Termination         |                    | Switch Function                |                                     | Indexing                            |                                 | Contact Material                |                                 | Actuator (max.)                 |                                 | Mounting Style                  |                                 |                                 |                                  |                             |                             |                                 |                                 |                                 |                                 |                            |                                 |                                 |                                 |                                              |                                              |                                   |                                                                            |                                                             |                   |                           |                                   |                                               |                                                       |                                                 |                                                         |                                       |                                       |                                                              |                                 |                                |
|-------------|--|---------------------|--------------------|--------------------------------|-------------------------------------|-------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|-----------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------|-------------------|---------------------------|-----------------------------------|-----------------------------------------------|-------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------------------|---------------------------------|--------------------------------|
| RTA         |  | P With PC Thru-hole | C With Solder Lugs | H Horizontal with PC Thru-hole | 1W12 SP, 30° Index, 12 pos. no stop | 1W10 SP, 36° Index, 10 pos. no stop | 1S02 SP, 30° /36° Index, 2 pos. | 1S03 SP, 30° /36° Index, 3 pos. | 1S04 SP, 30° /36° Index, 4 pos. | 1S05 SP, 30° /36° Index, 5 pos. | 1S06 SP, 30° /36° Index, 6 pos. | 1S07 SP, 30° /36° Index, 7 pos. | 1S08 SP, 30° /36° Index, 8 pos. | 1S09 SP, 30° /36° Index, 9 pos. | 1S10 SP, 30° /36° Index, 10 pos. | 1S11 SP, 30° Index, 11 pos. | 1S12 SP, 30° Index, 12 pos. | 2S02 DP, 30° /36° Index, 2 pos. | 2S03 DP, 30° /36° Index, 3 pos. | 2S04 DP, 30° /36° Index, 4 pos. | 2S05 DP, 30° /36° Index, 5 pos. | 2S06 DP, 30° Index, 6 pos. | 3S02 3P, 30° /36° Index, 2 pos. | 3S03 3P, 30° /36° Index, 3 pos. | 4S02 4P, 30° /36° Index, 2 pos. | EW10 Direct + complement, 36° Index, no stop | EW12 Direct + complement, 30° Index, no stop | DW16 Direct, 22.5° Index, no stop | ES__ Direct + complement, 30°/36° Index, with stop (specify stop position) | DS__ Direct, 22.5° Index, with stop (specify stop position) | W Without bushing | R 3/8-32 Threaded Bushing | M M10x.75 Metric Threaded Bushing | A 3/8-32 Threaded Bushing with Offset Bracket | B M10x.75 Metric Threaded Bushing with Offset Bracket | C 3/8-32 Threaded Bushing with Straight Bracket | D M10x.75 Metric Threaded Bushing with Straight Bracket | 25N .984 (25,0) with screwdriver slot | 50N 1.97 (50,0) with screwdriver slot | FLS Flush shaft with screwdriver slot and position indicator | 25F .984 (25,0) Shaft with flat | 06F .236 (6,0) Shaft with flat |

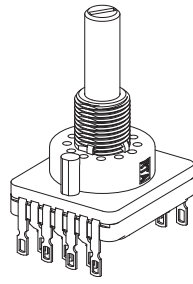


Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

# RTA Series 1-4 Poles Coded Rotary Switches

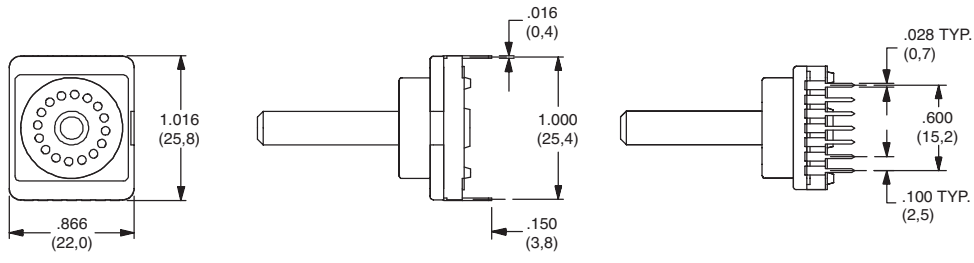
DESIGNATION 

**RTA**

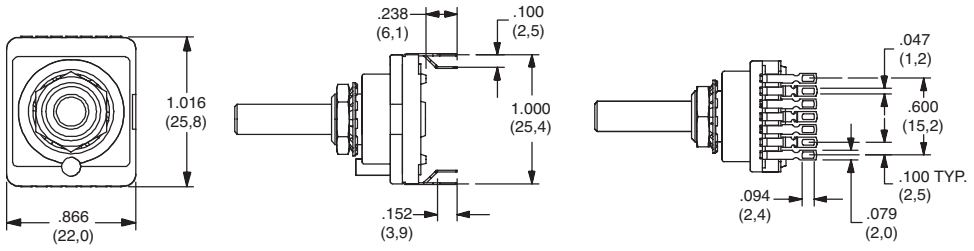


TERMINATION 

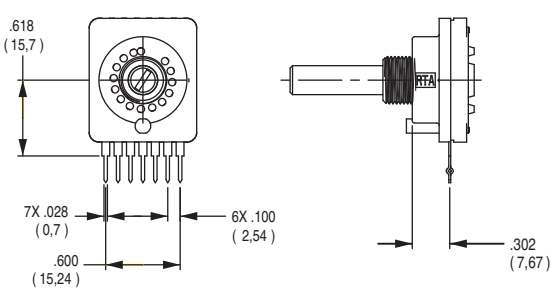
**P** WITH PC PINS



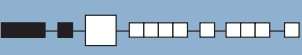
**C** WITH SOLDER LUGS



**H** Horizontal with PC Thru-hole

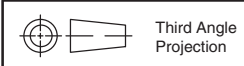


Note: "H" termination only available with the following options:  
1. With A or B mounting styles  
2. 36° degree indexing  
3. Up to 5 positions max

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.



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

[www.ck-components.com](http://www.ck-components.com)



**K**

Rotary

# RTA Series

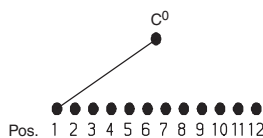
## 1-4 Poles Coded Rotary Switches

### SWITCH FUNCTION

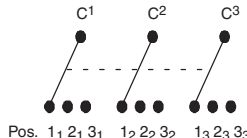


| NO. POLES | MODEL NO.   | SWITCH FUNCTION      | INDEX   |
|-----------|-------------|----------------------|---------|
| SP        | <b>1W12</b> | 12 Positions No Stop | 30°     |
|           | <b>1W10</b> | 10 Positions No Stop | 36°     |
|           | <b>1S02</b> | 2 Positions          | 30°/36° |
|           | <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°     |

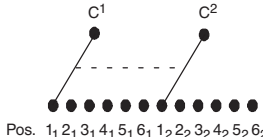
SP MODELS SCHEMATIC



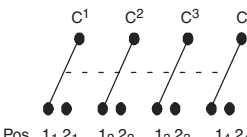
3P MODELS SCHEMATIC



DP MODELS SCHEMATIC



4P MODELS SCHEMATIC

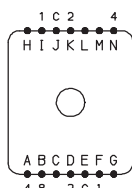


| NO. POLES | MODEL NO.   | SWITCH FUNCTION     | INDEX   |
|-----------|-------------|---------------------|---------|
| DP        | <b>2W05</b> | 5 Positions No Stop | 30°/36° |
|           | <b>2W06</b> | 6 Positions No Stop | 30°     |
|           | <b>2S02</b> | 2 Positions         | 30°/36° |
|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

| MODEL NO.   | SWITCH FUNCTION                                        | INDEX     |
|-------------|--------------------------------------------------------|-----------|
| <b>EW10</b> | Direct + complement, No stop                           | 36°       |
| <b>EW12</b> | Direct + complement, No stop                           | 30°       |
| <b>DW16</b> | Direct, No stop                                        | 22.5°     |
| <b>ES__</b> | Direct + complement, with stop (specify stop position) | 30° & 36° |
| <b>DS__</b> | Direct, with stop (specify stop position)              | 22.5°     |

| 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



BCD ONLY

Indexing Option Code 3, 30 INDEXING ANGLE PCB LAYOUT



1 POLE



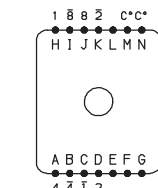
2 POLES



3 POLES



4 POLES



BCD + COMPLEMENTS

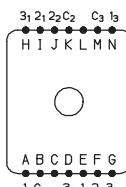
Indexing Option Code 4, 36 INDEXING ANGLE PCB LAYOUT



1 POLE



2 POLES



3 POLES



4 POLES



BCD + COMPLEMENTS

**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

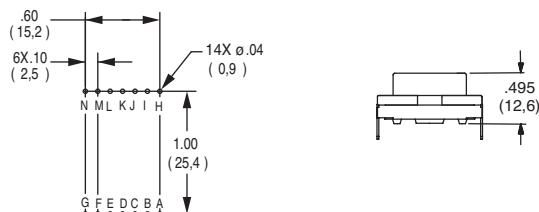


## RTA Series 1-4 Poles Coded Rotary Switches

## MOUNTING STYLE

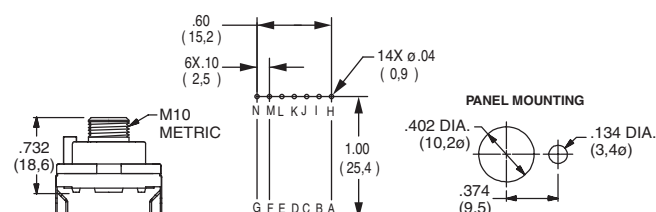


## W WITHOUT BUSHING



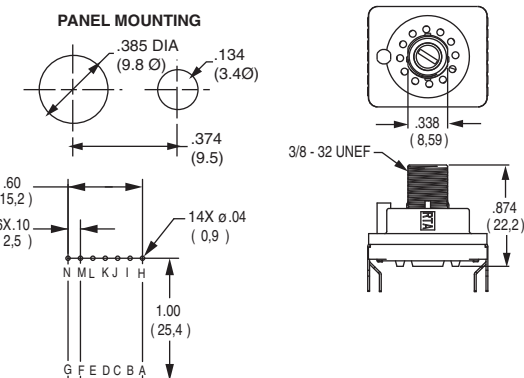
Note: W mounting style not available with H termination.

**M** M10 x .75 MERTIC THREADED BUSHING



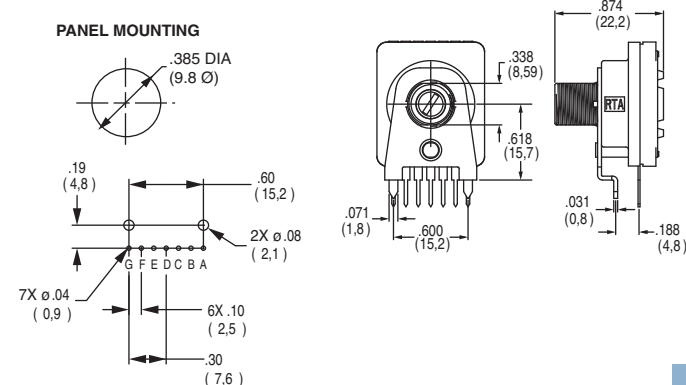
Note: M mounting style not available with H termination.

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



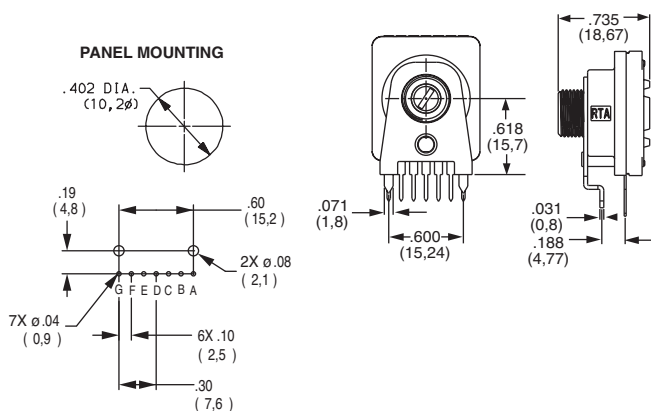
Note: R mounting style not available with H termination.

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



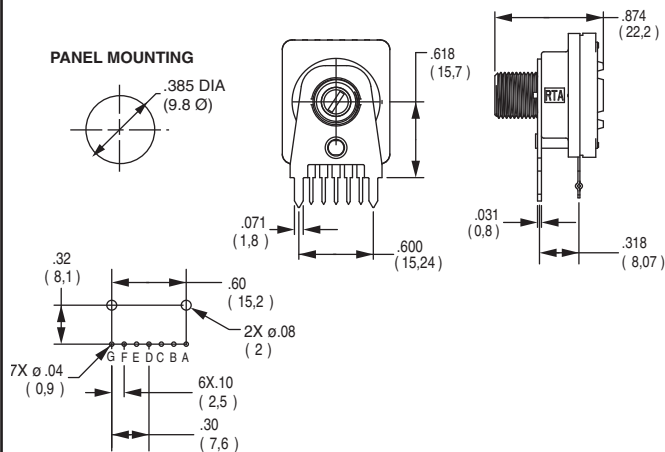
Note: A mounting style only available with H termination.

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

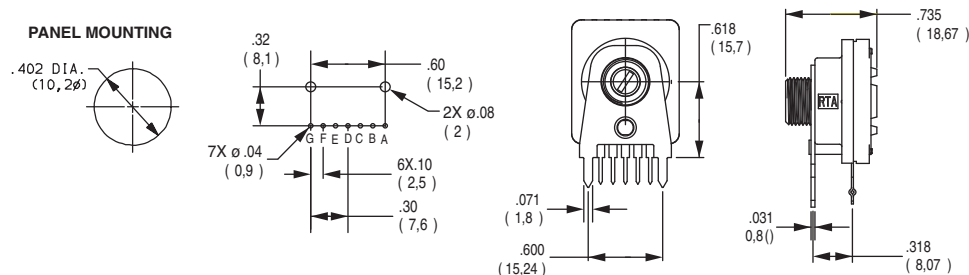


Note: B mounting style only available with H termination.

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



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

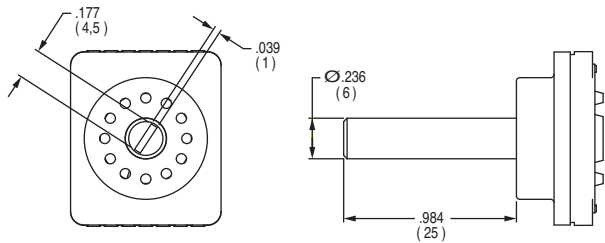


Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

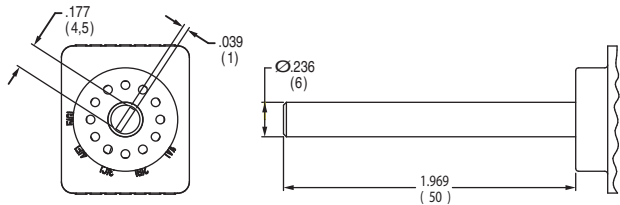
RTA Series  
1-4 Poles Coded Rotary Switches

ACTUATOR

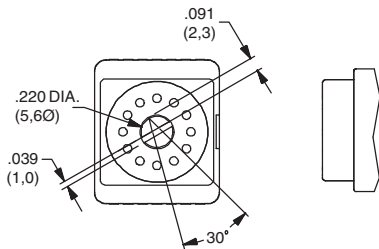
25N .984 (25,0) WITH SCREWDRIVER SLOT



50N 1.97 (50,0) WITH SCREWDRIVER SLOT

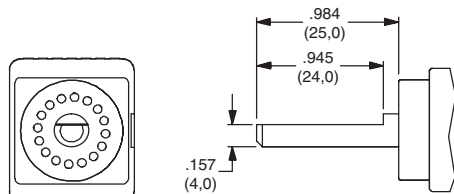


FLS FLUSH SHAFT WITH SCREWDRIVER SLOT AND POSITION INDICATOR



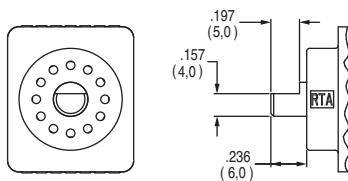
Note: only available with "W" Mounting Style

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

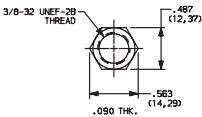
CONTACT MATERIAL

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

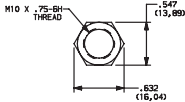
\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications.

AVAILABLE HARDWARE

Mounting Nuts



PART NO.  
472706201  
Standard



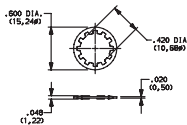
PART NO.  
495100201  
Metric

Stop pins



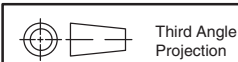
PART NO.  
Y200300200P

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



# Mouser Electronics

Authorized Distributor

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## C&K Components:

[RTAP2DS15M25NS](#) [RTAP31S12M50NS](#) [RTAP31S12W06FS](#) [RTAP31W12W25NS](#) [RTAP32S03M25NP](#)  
[RTAP32S03M25NS](#) [RTAP32S05M25NS](#) [RTAP3ES12M25NP](#) [RTAP3ES12W25NS](#) [RTAP3EW12M25NP](#)  
[RTAP41S05W25FS](#) [RTAP41S10W25NS](#) [RTAP4ES08W06FS](#) [RTAP4ES09WFLSS](#) [RTAP2DS08M25NS](#)  
[RTAP2DW16M25NS](#) [RTAP2DW16W25FS](#) [RTAP2DW16W25NS](#) [RTAP31W12W25NP](#) [RTAP33S03M50NS](#)