

# HCK Series

Precision Hall effect control knob

## MAIN FEATURES

- One axis
- Proportional output
- Spring centering or friction hold
- IP67 above panel sealed
- Made in the USA



The HCK Series is a panel mounted Hall effect control knob providing smooth, proportional output in a low-profile rotary design. For applications requiring reliable single axis rotational control, the HCK Series delivers precise linear outputs in a spring return or friction hold package. Standard IP67 above panel sealing ensure the HCK can be utilized in both indoor and outdoor environments.

## SPECIFICATIONS\*

| MECHANICAL SINGLE AXIS |                                            |
|------------------------|--------------------------------------------|
| Angular travel:        | 90° total (45° each direction from center) |
| Expected life:         | 5M                                         |
| Centering:             | Spring return to center or friction hold   |
| Mass/weight:           | 11 grams                                   |
| Breakout torque:       | .13 lbFin                                  |
| Max allowable torque:  | 50 lbFin                                   |

\* Specifications subject to change without notice

0718024mp

**Ruffy Controls, Inc.**  
3258 Grey Hawk Ct., Carlsbad, CA 92010  
ruffycontrols.com

**For more information:** sales@ruffycontrols.com

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## SPECIFICATIONS

| ELECTRICAL                         |                                              |
|------------------------------------|----------------------------------------------|
| <b>Sensor type:</b>                | Hall effect                                  |
| <b>Resolution:</b>                 | 12 bit                                       |
| <b>Supply voltage:</b>             | 5.00VDC +/- 0.01VDC regulated transient free |
| <b>Supply current:</b>             | 20mA max                                     |
| <b>Ratiometric output voltage:</b> | See output voltage                           |
| <b>Return to center voltage:</b>   | +/-50mV initial                              |
| <b>Transient overvoltage max:</b>  | 20VDC                                        |
| <b>Reverse polarity max:</b>       | -10VDC                                       |
| <b>Output impedance:</b>           | 2 $\Omega$                                   |
| <b>Startup time:</b>               | 15ms max                                     |

| ENVIRONMENTAL                 |                                                               |
|-------------------------------|---------------------------------------------------------------|
| <b>Operating temperature:</b> | -20°C to +85°C                                                |
| <b>Storage temperature:</b>   | -40°C to +85°C                                                |
| <b>Above panel sealing:</b>   | IP67*                                                         |
| <b>EMC immunity level:</b>    | EN61000-4-3 Compliance to 30A/m**                             |
| <b>EMC emissions level:</b>   | EN61000-6-3                                                   |
| <b>ESD immunity level:</b>    | EN61000-4-2 Compliance to $\pm 15\text{kV}/\pm 8\text{kV}$ ** |
| <b>Vibration:</b>             | Per SAE J1455 Section 4.9 & MIL-STD810G 514.6                 |
| <b>Mechanical shock:</b>      | Per SAE J1455 Section 4.10 & MIL-STD-202G                     |

\* Above panel sealing. All configurations. Product is static.

\*\* Extended testing levels

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## SPECIFICATIONS

| MATERIALS        |                              |
|------------------|------------------------------|
| Plastic housing: | Mineral & glass filled nylon |
| Knob/actuators:  | Mineral & glass filled nylon |

| CONNECTIONS:         |                                                                     |
|----------------------|---------------------------------------------------------------------|
| Housing body:        | PCB header (Molex 532610471)                                        |
| Mating wire harness: | 10" 28AWG PTFE to four position connector housing (Molex 510210400) |

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## PINOUT & MATING WIRE HARNESS



10" CABLE PROVIDED

| WIRE COLOR & DESCRIPTION |        |             |
|--------------------------|--------|-------------|
| PIN #                    | COLOR  | DESCRIPTION |
| 1                        | N/A    | N/A         |
| 2                        | YELLOW | Sensor      |
| 3                        | BLACK  | Ground      |
| 4                        | RED    | Power (+5V) |

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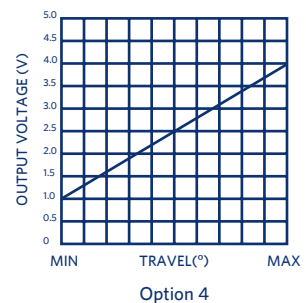
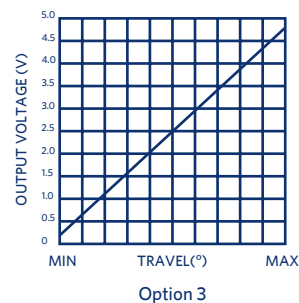
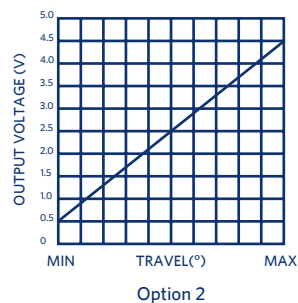
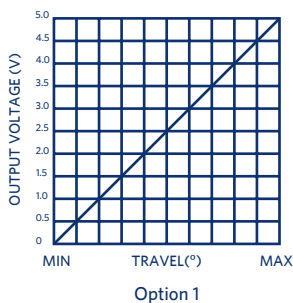
## HCK SERIES PART NUMBER CODE



Knurled Knob

| KNOB OPTION |                            | OUTPUT OPTION |                | KNOB COLOR |       | CENTERING |                  |
|-------------|----------------------------|---------------|----------------|------------|-------|-----------|------------------|
| 1           | KNURLED KNOB<br>(Standard) | 1             | 0V - 5V        | BK         | Black |           | Spring centering |
|             |                            | 2             | 0.5 TO 4.5V    | GY         | GREY  | FL        | Friction hold    |
|             |                            | 3             | 0.25V TO 4.75V |            |       |           |                  |
|             |                            | 4             | 1V TO 4V       |            |       |           |                  |

## VOLTAGE OUTPUT OPTIONS



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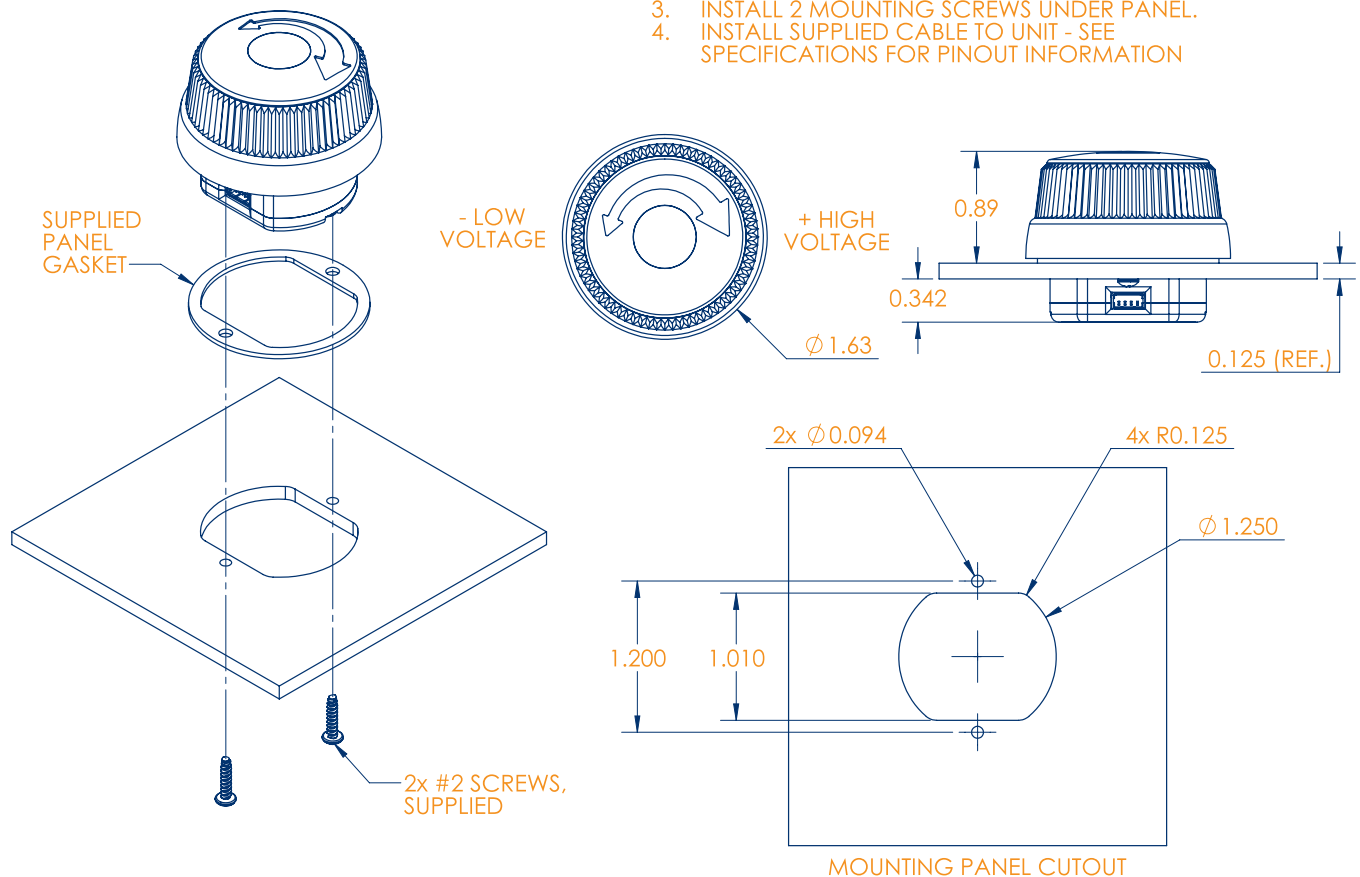
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## PANEL CUTOUT DIMENSIONS

### MOUNTING DIRECTIONS :

1. INSTALL PANEL GASKET.
2. DROP CONTROL KNOB INTO PANEL CUTOUT.
3. INSTALL 2 MOUNTING SCREWS UNDER PANEL.
4. INSTALL SUPPLIED CABLE TO UNIT - SEE SPECIFICATIONS FOR PINOUT INFORMATION



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