

## Panel Mounted, Split-core, Open Loop, Hall Effect Current Sensor

The HOS-K Series of panel mounted, split-core, open loop, Hall Effect current sensors are designed for application requiring the measurement of AC current, DC current and DC current pulses.



The HOS-K current sensor design is based upon the principle that a magnetic field applied perpendicular to an electric current will create a proportional Hall voltage perpendicular to the two fields. The technology allows;

- Contactless, non-intrusive current sensing and
- Current sensing of DC current, DC current pulses and AC electric current.

The Hall Effect technology features high accuracy, high primary to secondary electrical isolation and extended frequency detection bandwidth.

### Features:

- Four (4) different models.
- Rated Primary ( $I_{\text{nominal}}$ ): from 50A to 6,000A.
- Output:  $\pm 4$  V at rated primary input current.

### Specifications:

- Frequency: 0 to 20kHz.
- Dielectric withstand voltage between Primary and Secondary: 5,000V RMS @ 50HZ for 1 minute.
- Load resistance:  $> 10$  kOhms .
- Operating Temperature:  $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Supply Voltage:  $\pm 12\text{V} \dots 15\text{V}$  ( $\pm 5\%$ )  
Optional: +24VDC.
- Supply Consumption: 25mA.



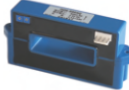

- Construction:
  - Epoxy encapsulated housing.
  - Case material – Nylon, UL flame retardant rating 94 V-0.
- RoHS compliant.



### Performance:

- Accuracy:  $\pm 1\%$  of  $I_{\text{nominal}}$  @  $25^{\circ}\text{C}$
- Linearity:  $\leq 1\%$
- Response Time:  $\leq 10\mu\text{Second}$
- Offset Voltage (@  $+25^{\circ}\text{C}$ ):  
 $\pm 30\text{mV}$  maximum for primary current  
 $I_{\text{nominal}} = 0$ .
- Temperature Drift:  $\pm 1\text{mV}/^{\circ}\text{C}$   
maximum ( $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ )

### Available Models:

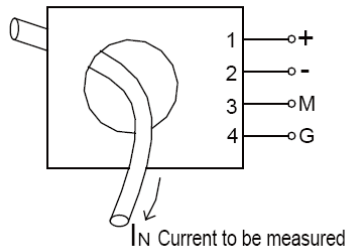
Model	Rated Current (RMS)	Opening	
HOS-xxxK1	50A, 100A, 200A, 300A, 400A, 500A, 600A	42mm (1.65") x 15mm (0.59")	
HOS-xxxxK2	200A, 400A, 600A, 1000A	64mm (2.52") x 16mm (0.63")	
HOS-xxxxK3	1000A, 2000A, 3000A, 5000A, 6000A	84mm (3.31") x 22mm (0.87")	
HOS-xxxxK4	1000A, 2000A, 3000A, 4000A, 6000A	104.5mm (4.11") x 36mm (1.42")	

### Connection Definitions:

PIN 1	PIN 2	PIN 3	PIN 4
Power supply input	Power supply input	Secondary signal output (positive or negative value is dependent upon direction of primary current)	Secondary signal
+12VDC	-12VDC	Signal output	Ground/ Return
+15VDC	-15VDC	Signal output	Ground/ Return
+12VDC	NC	Signal output	Ground/ Return
+15VDC	NC	Signal output	Ground/ Return
+24VDC	NC	Signal output	Ground/ Return

**NOTE:**

1. Secondary output is positive when direction of primary flow is from side with terminals to side without terminals/ direction of the arrow.



2. **OFS** – Offset adjustment
3. **GIN** – Gain adjustment
4. **Power supply options:**  $\pm 12V$ ,  $\pm 15V$ ,  $+12V$ ,  $+15V$ ,  $+24V$  (power supply option to be used should be specified at time of purchase).

**Custom Hall Effect current sensor designs** are available to meet the specific application requirements. For a no obligation technical evaluation, please provide the specific performance requirements to [engineering@tichenassociates.com](mailto:engineering@tichenassociates.com) or the address below.