

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_{nominal}): from 50A to 6,000A.
- Output: ± 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°C to $+85^{\circ}\text{C}$.
- Supply Voltage: $\pm 12\text{V} \dots 15\text{V}$ ($\pm 5\%$)
Optional: +24VDC.
- Supply Consumption: 25mA.

Construction:

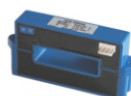

- Epoxy encapsulated housing.
- Case material – Nylon, UL flame retardant rating 94 V-0.
- RoHS compliant.



Performance:

- Accuracy: $\pm 1\%$ of I_{nominal} @ 25°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°C to $+85^{\circ}\text{C}$)

Available Models:

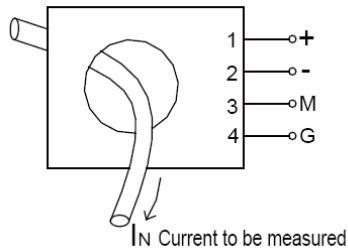
Model	Rated Current (RMS)	Opening	
HOS-xxxK1	50A, 100A, 200A, 300A, 400A, 500A, 600A	42mm (1.65") x 15mm (0.59")	
HOS-xxxxK2	200A, 400A, 600A, 1000A	64mm (2.52") x 16mm (0.63")	
HOS-xxxxK3	1000A, 2000A, 3000A, 5000A, 6000A	84mm (3.31") x 22mm (0.87")	
HOS-xxxxK4	1000A, 2000A, 3000A, 4000A, 6000A	100mm (3.94") x 42mm (1.65")	

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 or the address below.