



Hall Current Sensor CYHCS-K2C

This Hall Effect current sensor is based on open loop compensating principle and designed with a split core and a high galvanic isolation between primary and secondary circuits. It can be used for measurement of DC and AC current, pulse currents etc. The output of the transducer reflects the real wave of the current carrying conductor.

Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Less power consumption • Window structure • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • Frequency conversion timing equipments • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electric powered locomotive • Electric power network monitoring • Inverters etc.

Electrical Data

Primary Nominal RMS Current I_r (A)	Measuring Range (A)	Output voltage (V)	Aperture Diameter (mm)	Part number
2000	4000	4 ±1.0%	Ø85	CYHCS-K2C2000A
2500	5000			CYHCS-K2C2500A
3000	6000			CYHCS-K2C3000A
3500	7000			CYHCS-K2C3500A
4000	8000			CYHCS-K2C4000A
4500	9000			CYHCS-K2C4500A
5000	10000			CYHCS-K2C5000A
6000	12000			CYHCS-K2C6000A

Supply Voltage
Current Consumption
Galvanic isolation, 50/60Hz, 1min:
Load resistance:
Isolation resistance @ 500 VDC

$V_{cc} = \pm 12 \sim 15 \text{VDC}$
 $I_c < 20 \text{mA}$
2.5kV
10kΩ
> 500 MΩ

Accuracy and Dynamic performance data

Accuracy at I_r , $T_A = 25^\circ\text{C}$ (without offset),
Linearity from 0 to I_r , $T_A = 25^\circ\text{C}$,
Electric Offset Voltage, $T_A = 25^\circ\text{C}$,
Magnetic Offset Voltage ($I_r \rightarrow 0$)
Thermal Drift of Offset Voltage,
Response Time at 90% of I_P ($f = 1 \text{kHz}$)
Frequency bandwidth (-3 dB):

$X < 1.0\%$
 $E_L < 1.0\% \text{FS}$
 $V_{oe} < 20 \text{mV}$
 $V_{om} < \pm 25 \text{mV}$
 $V_{ot} < \pm 1 \text{mV}/^\circ\text{C}$
 $t_r < 5 \mu\text{s}$
DC-50kHz

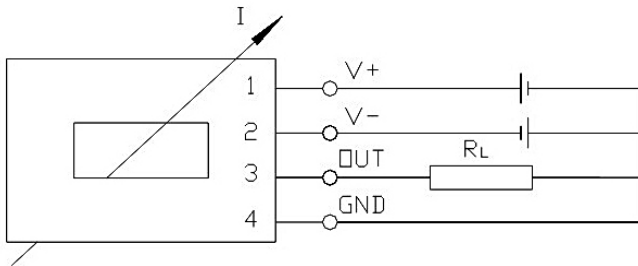
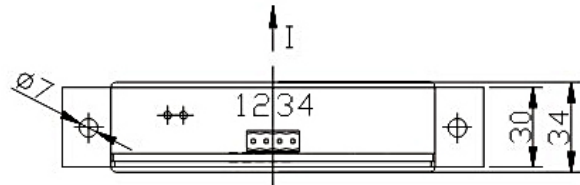
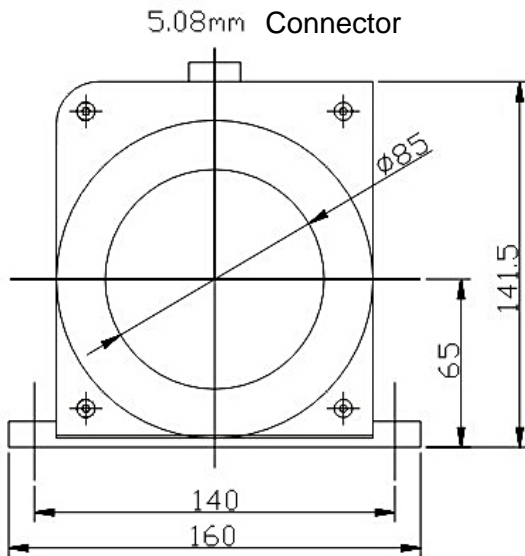
General Data

Ambient Operating Temperature,
Ambient Storage Temperature,

$T_A = -10^\circ\text{C} \sim +70^\circ\text{C}$
 $T_S = -40^\circ\text{C} \sim +85^\circ\text{C}$



Dimensions



Terminal Arrangement:

- 1: V+ (+12~15VDC)
- 2: V- (-12~15VDC)
- 3: OUTPUT
- 4: GND

Notes:

1. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled with bus-bar (current carrying conductor).
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer