

## Open Loop Hall AC/DC Current Sensor CYHCS-KAB

This Hall Effect current sensor is based on open loop principle and designed with a high galvanic isolation between primary conductor and secondary circuit. 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"> <li>• Excellent accuracy</li> <li>• Very good linearity</li> <li>• Light in weight</li> <li>• Less power consumption</li> <li>• Window structure</li> <li>• Electrically isolating the output of the transducer from the current carrying conductor</li> <li>• No insertion loss</li> <li>• Current overload capability</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Photovoltaic equipment</b></li> <li>• Frequency conversion timing equipment</li> <li>• Uninterruptible power supplies (UPS)</li> <li>• Electric welding machines</li> <li>• Transformer substation</li> <li>• Numerical controlled machine tools</li> <li>• Electrolyzing and electroplating equipment</li> <li>• Electric powered locomotive</li> <li>• Electric power network monitoring</li> </ul>

### Electrical Data

Primary Nominal Current $I_r$ (A)	Measuring Range (A)	Output voltage (Analog) (V)	Window Size (mm)	Part number
500	±1000	X=0: ±4V ±1.0% X=1: ±5V ±1.0%	102 x 38	CYHCS-KAB500A-X
700	±1400			CYHCS-KAB700A-X
800	±1600			CYHCS-KAB800A-X
900	±1800			CYHCS-KAB900A-X
1000	±2000			CYHCS-KAB1000A-X
1500	±3000			CYHCS-KAB1500A-X
2000	±4000			CYHCS-KAB2000A-X
3000	±4000			CYHCS-KAB3000A-X

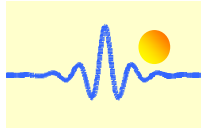
Supply Voltage  
Current Consumption  
Galvanic isolation, 50/60Hz, 1min:  
Load resistance:  
Isolation resistance @ 500 VDC

$V_{CC} = \pm 12 \sim \pm 15V \pm 5\%$   
 $I_c < 30mA$   
5kV rms  
 $\geq 10k\Omega$   
 $> 500 M\Omega$

### Accuracy and Dynamic performance data

Accuracy at  $I_r$ ,  $T_A=25^\circ C$  (without offset),  
Linearity from 0 to  $I_r$ ,  $T_A=25^\circ C$ ,  
Electric Offset Voltage,  $T_A=25^\circ C$ ,  
Magnetic Offset Voltage ( $I_r \rightarrow 0$ )  
Thermal Drift of Offset Voltage,  
Thermal Drift ( $-10^\circ C$  to  $50^\circ C$ ),  
Frequency bandwidth (- 3 dB):  
Response Time at 90% of  $I_p$  ( $f=1k$  Hz)

$E < \pm 1.0\% FS$   
 $E_L < \pm 0.5\% FS$   
 $V_{oe} < \pm 30mV$   
 $V_{om} < \pm 25mV$   
 $V_{ot} < \pm 1.0mV/^\circ C$   
T.C.  $< \pm 0.1\% /^\circ C$   
DC-20kHz  
 $t_r < 7\mu s$

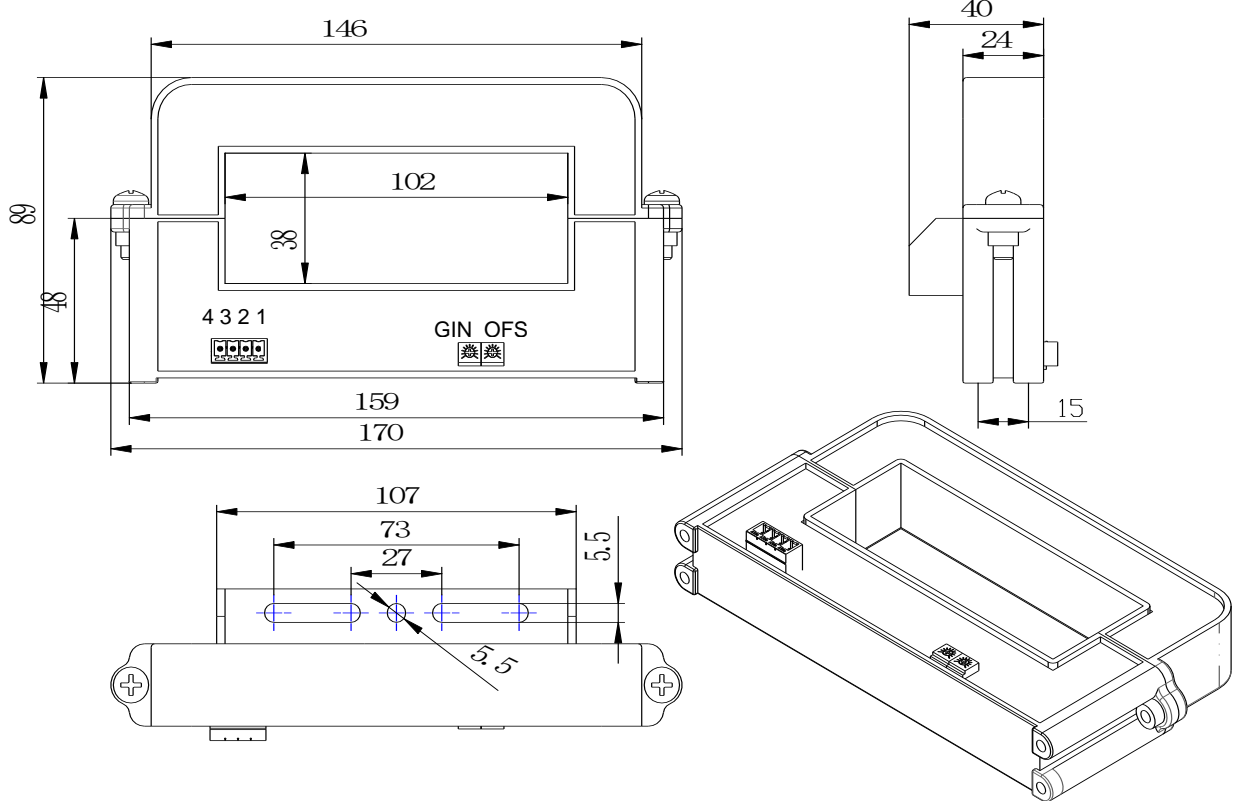


## General Data

Ambient Operating Temperature,  
Ambient Storage Temperature,  
Unit weight:  
Standard used:

$T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$   
 $T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$   
750g/unit  
Q/320115QHKJ01-2013

## Dimensions



OFS: Offset adjustment      GIN: Gain adjustment

## Pin Arrangement

Phoenix Connector:

1: +Vcc; 2: -Vcc; 3: Output; 4: Ground

Cable connection:

Red: +Vcc; blue: -Vcc    yellow: Vout; black: GND



## Notes:

1. Connect the terminals of power source, output 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