



## Closed Loop Hall Current Sensor CYHCS-B8S

This Hall Effect current sensor is based on the closed loop compensating principle and designed with 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"><li>• Excellent accuracy</li><li>• Very good linearity</li><li>• Small size and encapsulated</li><li>• Less power consumption</li><li>• Current overload capability</li></ul>	<ul style="list-style-type: none"><li>• <b>Photovoltaic equipment</b></li><li>• General Purpose Inverters</li><li>• AC/DC Variable Speed Drivers</li><li>• Battery Supplied Applications</li><li>• Uninterruptible Power Supplies</li><li>• Switched Mode Power Supplies</li></ul>

### Electrical Data/Input

Part number	Primary Rated Current $I_r$ (A)	Measuring Range $I_p$ (A)	Primary Conductor (mm)	Turns ratio	Internal measuring resistor ( $\Omega$ )
CYHCS-B8S05A	5	$\pm 16$	$\varnothing 0.8$	2:1600	100 $\pm$ 0.5%
CYHCS-B8S10A	10	$\pm 32$	$\varnothing 1.0$	1:1600	100 $\pm$ 0.5%
CYHCS-B8S15A	15	$\pm 48$	$\varnothing 1.0$	1:1200	50 $\pm$ 0.5%
CYHCS-B8S25A	25	$\pm 80$	$\varnothing 1.4$	1:1500	37.5 $\pm$ 0.5%

(Rated input current can be selected between 5A and 25A)

Rated Output Voltage:	+2.5V $\pm$ 0.625V $\pm$ 0.5%
Supply Voltage	+5V $\pm$ 5%,
Current Consumption	<25mA
Isolation voltage (50/60Hz, 1min)	2.5kV
Accuracy:	0.7%
Linearity:	<0.1% FS
Electric Offset Voltage	+2.5V $\pm$ 0.5%
Thermal Drift of Offset Voltage,	$\pm$ 0.5mV/ $^{\circ}$ C
Response Time:	< 0.5 $\mu$ s
Di/dt following accuracy:	50A/ $\mu$ s
Frequency Bandwidth (-1dB):	DC ~ 200kHz

### General Data

Ambient Operating Temperature:	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C
Ambient Storage Temperature:	-40 $^{\circ}$ C~ +125 $^{\circ}$ C

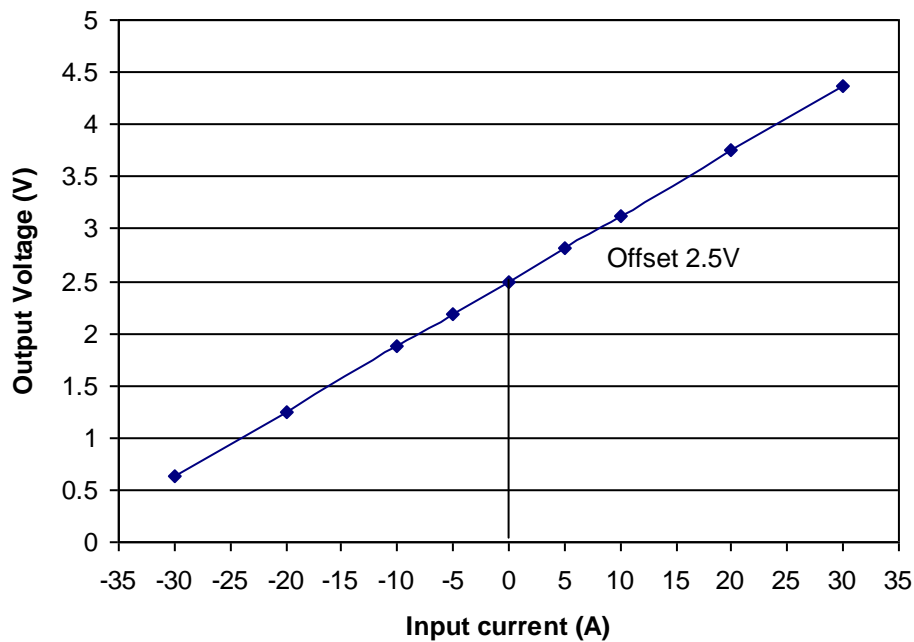


## Relation between Input Current and Output Voltage

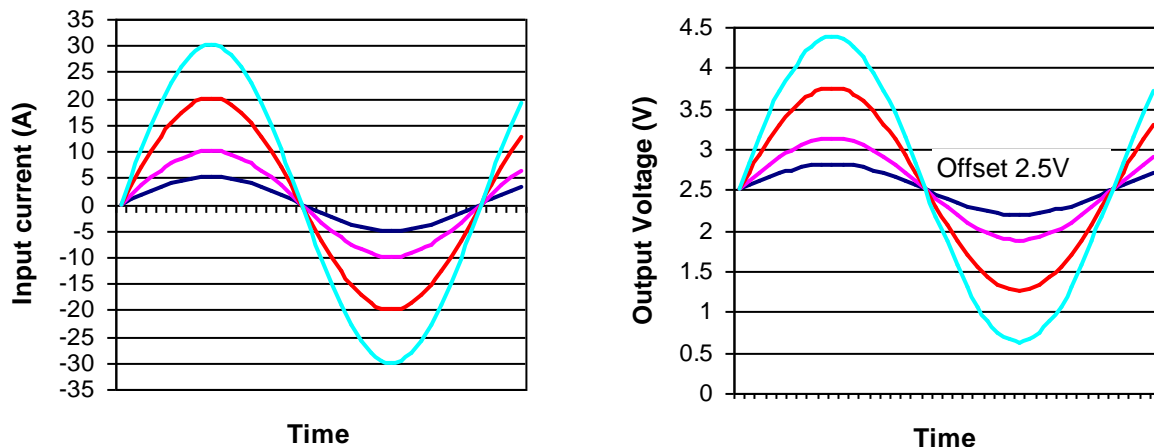
Take the sensor CYHCS-B8S10A as sample, the relation between the input current and output voltage is shown in the table 1, Fig.1 and Fig. 2

**Table 1.** Relation between the input current and output voltage

Input current (A)	-30	-20	-10	-5	0	5	10	20	30
Output voltage (V)	0.625	1.25	1.875	2.188	2.5	2.813	3.125	3.75	4.375



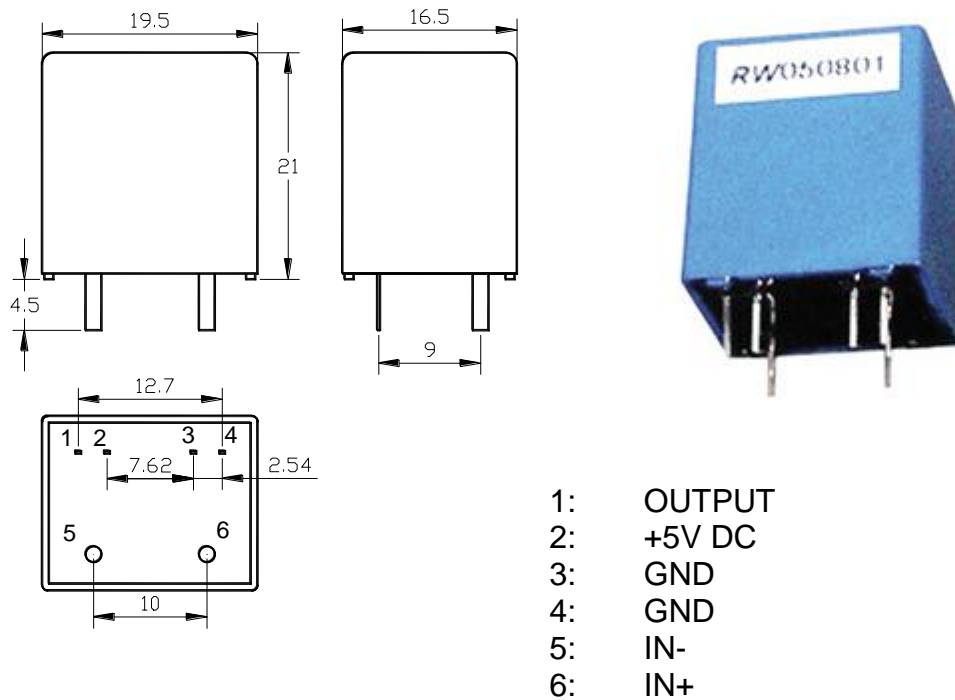
**Fig. 1** Relation between the input current (DC) and output voltage (DC)



**Fig. 2** Relation between the input current (AC) and output voltage (AC)

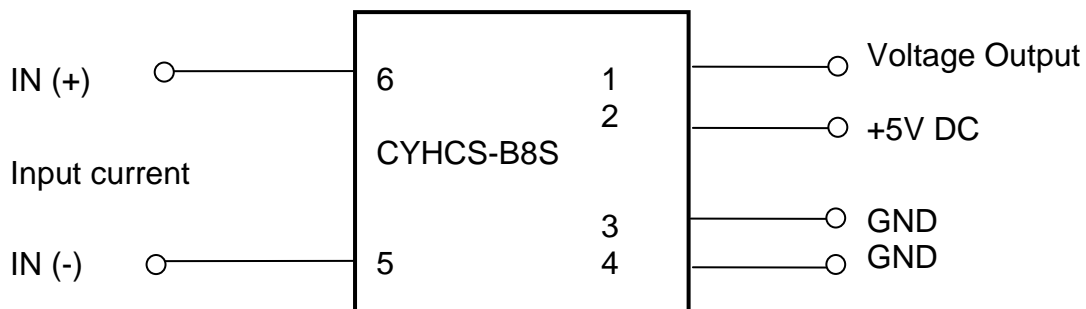


## Dimensions (mm)



**Fig. 3** Dimensions of CYHCS-B8S

## Connection



**Fig. 4** Connection of CYHCS-B8S

## Operating instructions

1. Connect the pins of power source, outputs respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 100 °C.