

## High Accurate Hall Current Sensor CYHCS-LTH

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"> <li>• Excellent accuracy</li> <li>• Very good linearity</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>• Frequency conversion timing equipments</li> <li>• Various power supply</li> <li>• Uninterruptible power supplies (UPS)</li> <li>• Electric welding machines</li> <li>• Transformer substation</li> <li>• Numerical controlled machine tools</li> <li>• Electric powered locomotive</li> <li>• Microcomputer monitoring</li> <li>• Electric power network monitoring</li> </ul>

### Electrical Data

Primary Nominal RMS Current $I_r$ (A)	Measuring Range (A)	Output voltage (V)	Aperture Diameter (mm)	Part number
10	$\pm 30$	4 $\pm 0.2\%$	$\varnothing 20.2$	CYHCS-LTH10A
20	$\pm 60$			CYHCS-LTH20A
50	$\pm 150$			CYHCS-LTH50A
75	$\pm 225$			CYHCS-LTH75A
100	$\pm 300$			CYHCS-LTH100A
200	$\pm 500$			CYHCS-LTH200A
300	$\pm 600$			CYHCS-LTH300A
500	$\pm 1000$			CYHCS-LTH500A

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

$V_{cc} = \pm 15V \pm 5\%$ ,  
 $I_c < 20mA$   
5kV  
> 500 M $\Omega$

### Accuracy and Dynamic performance data

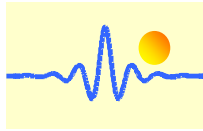
Accuracy at  $I_r$ ,  $T_A = 25^\circ C$  (without offset),  
Linearity from 0 to  $I_r$ ,  $T_A = 25^\circ C$ ,  
Electric Offset Voltage,  $T_A = 25^\circ C$ ,  
Magnetic Offset Voltage ( $I_r \rightarrow 0$ )  
Thermal Drift of Offset Voltage,  
Response Time at 90% of  $I_P$  ( $f = 1k$  Hz)  
Frequency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

$X < 0.5\%$   
 $E_L < 0.2\%$  FS  
 $V_{oe} < \pm 15mV$   
 $V_{om} < \pm 15mV$   
 $V_{ot} < \pm 0.5mV/^\circ C$   
 $t_r < 3\mu s$   
DC-20kHz

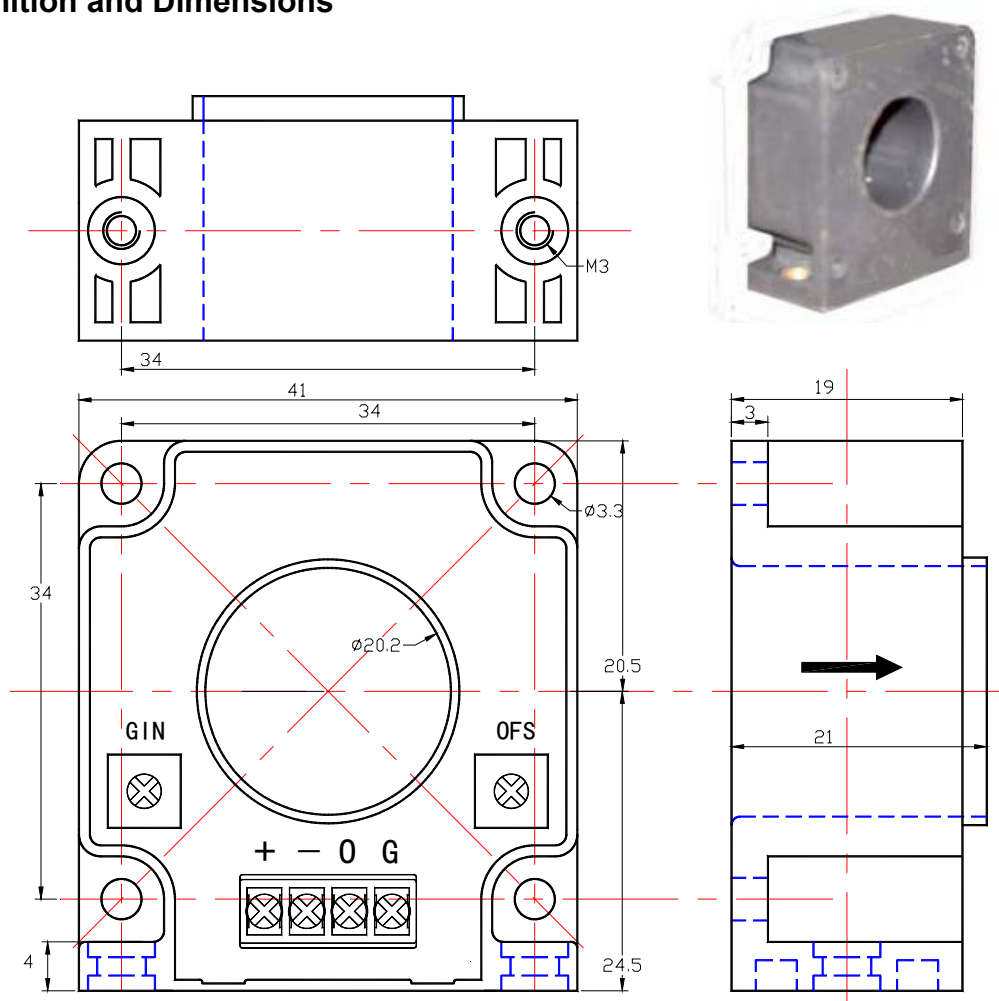
### General Data

Ambient Operating Temperature,  
Ambient Storage Temperature,

$T_A = -40^\circ C \sim +85^\circ C$   
 $T_S = -55^\circ C \sim +125^\circ C$



## PIN Definition and Dimensions



### Terminal Definition:

+: +15V    -: -15V    O: Output    G: Ground

### 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