

Open Loop Hall AC/DC Current Sensor CYHCS-RC4

This Hall Effect current sensor can be used for measurement of DC and AC current, pulsed currents etc. The output of the transducer reflects the real wave of the current carrying conductor.

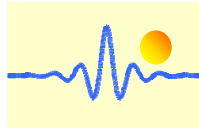
Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Small size • Light in weight • Less power consumption • Window structure • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability 	<ul style="list-style-type: none"> • Frequency conversion timing equipments • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electrolyzing and electroplating equipments • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data/Input

Primary Nominal Current I_r (A)	Primary Current Measuring Range I_p (A) at $V_{cc}=15V$	Output voltage	Part number
50	± 150	X=0: $\pm 4V \pm 1.0\%$ X=1: $\pm 5V \pm 1.0\%$	CYHCS-RC4-050A-X
100	± 200		CYHCS-RC4-100A-X
150	± 300		CYHCS-RC4-150A-X
200	± 400		CYHCS-RC4-200A-X
250	± 500		CYHCS-RC4-250A-X
300	± 600		CYHCS-RC4-300A-X

Technical Data:

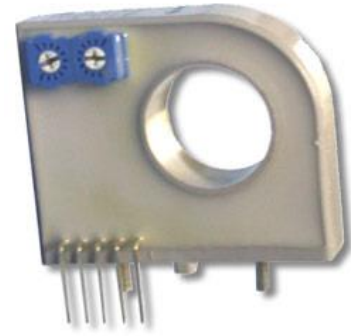
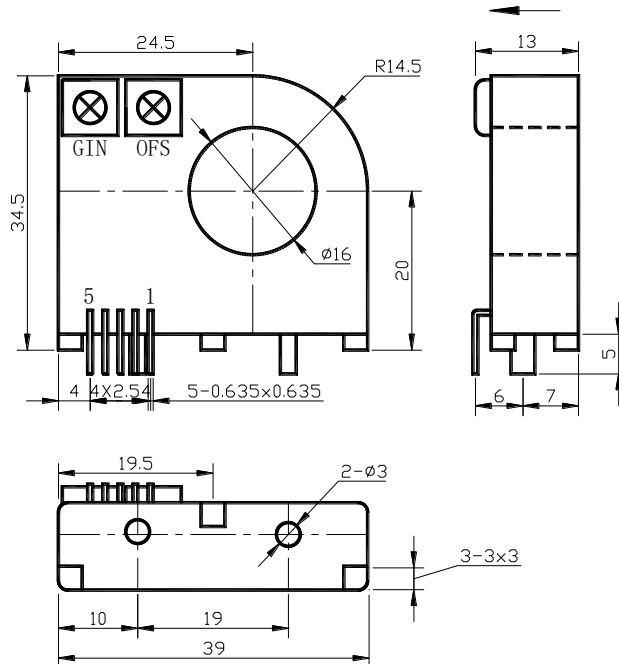
Supply Voltage	$V_{cc} = \pm 15V \pm 5\%$,
Current Consumption	$I_c < 20mA$
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	$V_{is} < 10mA$
Isolation Resistance at 500V DC	$R_{is} > 500 M\Omega$
Output Impedance:	$R_{out} < 150\Omega$
Load Resistor:	$R_L > 10k\Omega$
Accuracy at I_r , $T_A=25^\circ C$ (without offset),	$E < 1.0\%$
Linearity from 0 to I_r , $T_A=25^\circ C$,	$E_L < 1.0\% FS$
Electric Offset Voltage, $T_A=25^\circ C$,	$V_{oe} < 20mV$
Magnetic Offset Voltage ($I_r \rightarrow 0$)	$V_{om} < \pm 15mV$
Thermal Drift of Offset Voltage,	$V_{ot} < \pm 1.0mV/^\circ C$



Thermal Drift (-10°C to 50°C),
Response Time at 90% of I_P ($f=1\text{kHz}$)
Frequency Bandwidth (-3dB),
Ambient Operating Temperature,
Ambient Storage Temperature,

T.C. < $\pm 0.1\%$ / °C
 $t_r < 7\mu\text{s}$
 $f_b = 50\text{kHz}$
 $T_A = -25^\circ\text{C} \sim +85^\circ\text{C}$
 $T_S = -40^\circ\text{C} \sim +100^\circ\text{C}$

PIN Definition and Dimensions



1: V+
2: V-
3: Output
4: Ground
5: NC

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