



Spilt Core Hall Current Sensor CYHCS-RC2

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. The sensors use split cores and are easily to mount.

Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Using split cores and easy mounting • 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 RMS Current I_r (A)	Primary Current Measuring Range I_p (A) at $V_{cc}=15V$	Aperture Diameter (mm)	Part number
50	± 100	21	CYHCS-RC2-50A
100	± 200	21	CYHCS-RC2-100A
200	± 400	21	CYHCS-RC2-200A
300	± 600	21	CYHCS-RC2-300A
400	± 800	21	CYHCS-RC2-400A
500	± 1000	21	CYHCS-RC2-500A

Supply Voltage
Current Consumption
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,
Isolation Resistance at 500V DC

$V_{cc} = \pm 15V \pm 5\%$,
 $I_c < 20mA$
 $V_{is} < 10mA$
 $R_{is} > 500 M\Omega$

Electrical Data/Output

Output Voltage at I_r , $T_A=25^\circ C$:
Output Impedance:
Load Resistor:

$V_{out} = 4V$
 $R_{out} < 150\Omega$
 $R_L > 10k\Omega$

Accuracy

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 $50^\circ C$),
Response Time at 90% of I_p ($f=1k$ Hz)
Frequency Bandwidth (-3dB),

$X < 1.0\%$
 $E_L < 1.0\% FS$
 $V_{oe} < 20mV$
 $V_{om} < \pm 15mV$
 $V_{ot} < \pm 1.0mV/^\circ C$
T.C. $< \pm 0.1\% /^\circ C$
 $t_r < 7\mu s$
 $f_b = 50$ kHz

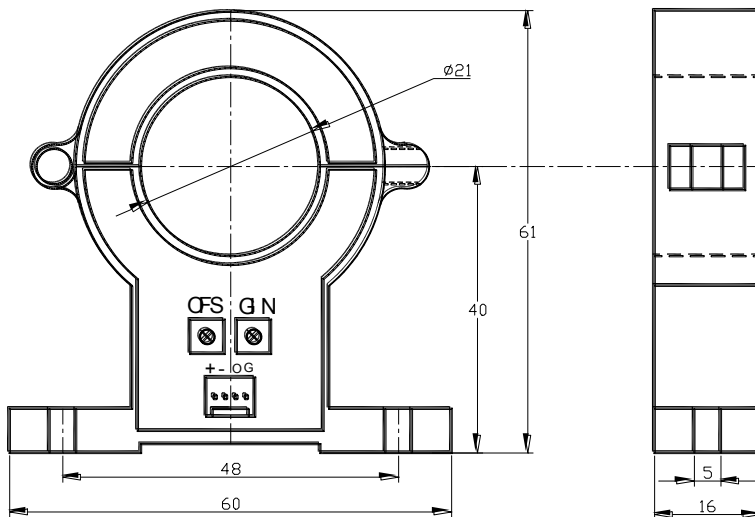


General Data

Ambient Operating Temperature,
Ambient Storage Temperature,

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

PIN Definition and Dimensions



+: +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