ChenYang
Technologies GmbH & Co KG

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.
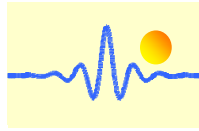
Product Characteristics	Applications
• Excellent accuracy • Very good linearity • Small size • Light in weight • Less power consumption • Window structure • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability	• Frequency 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 Vcc=15V	Aperture Diameter (mm)	Part number
50	$\pm$ 150	16	CYHCS-RC4-050A
100	$\pm$ 200	16	CYHCS-RC4-100A
150	$\pm$ 300	16	CYHCS-RC4-150A
200	$\pm$ 400	16	CYHCS-RC4-200A
250	$\pm$ 500	16	CYHCS-RC4-250A
300	$\pm$ 450	16	CYHCS-RC4-300A

Technical Data:

Supply Voltage	$V_{cc}= \pm15V \pm 5\%$,
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 MΩ
Output Voltage (analog) at I_r, T_A=25°C:	V_{out} = 4V
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°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/°C

Version 2
Released in May 2016
Dr.-Ing. habil. Jigou Liu

ChenYang

Technologies GmbH & Co KG

Thermal Drift (-10°C to 50°C),	T.C. < $\pm$0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = 50 kHz
Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C

PIN Definition and Dimensions
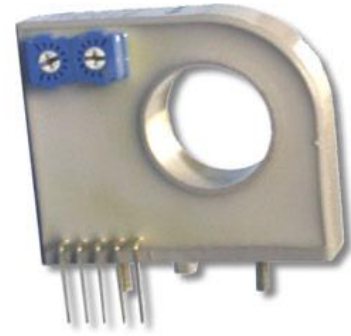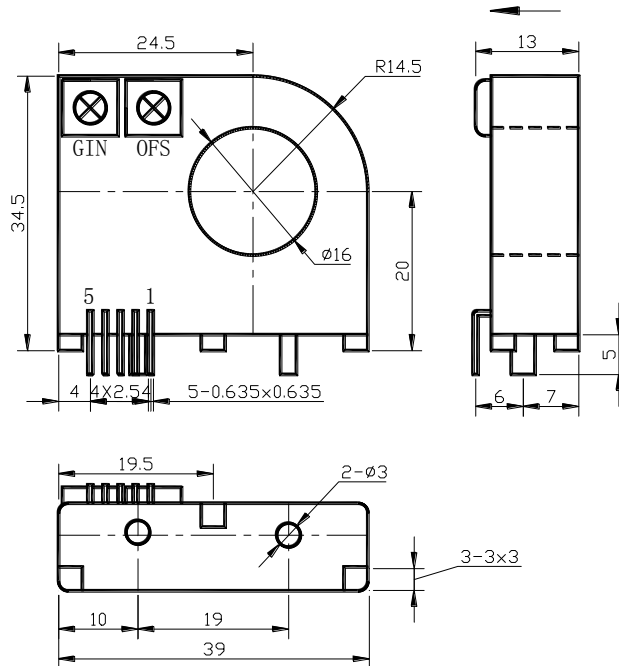
1: V+
2: V-
3: Output
4: Ground
5: NC

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