ChenYang Technologies GmbH & Co KG

Open Loop Hall AC/DC Current Sensor CYHCS-K3/BR

This Hall Effect current sensor is based on open loop principle and designed with a high galvanic isolation between primary conductor and secondary circuit. 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
• 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	• **Photovoltaic equipment** • Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Transformer substation • Numerical controlled machine tools • Electrolyzing and electroplating equipment • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal Current I_r (A)	Measuring Range (A)	Output voltage (Analog) (V)	Window Size (mm)	Part number
50	± 150	X=0: ±4V ±1.0% X=1: ±5V ±1.0%	20.5x10.5	CYHCS-K3/BR-050A-X
100	± 300			CYHCS-K3/BR-100A-X
200	± 600			CYHCS-K3/BR-200A-X
300	± 900			CYHCS-K3/BR-300A-X
400	±1000			CYHCS-K3/BR-400A-X
500	±1000			CYHCS-K3/BR-500A-X
600	±1000			CYHCS-K3/BR-600A-X

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 25mA
Galvanic isolation, 50/60Hz, 1min:	2.5kV
Isolation resistance @ 500 VDC	> 500 MΩ

Accuracy and Dynamic performance data

Accuracy at I_r, T_A=25°C (without offset),	E <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} <±25mV
Magnetic Offset Voltage (I_r →0)	V_{om} <±25mV
Thermal Drift of Offset Voltage,	V_{ot} <±0.5mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Frequency bandwidth (- 3 dB):	DC-50kHz
Response Time at 90% of I_P (f=1k Hz)	t_r < 3µs
di/dt following accuracy:	70A/µs

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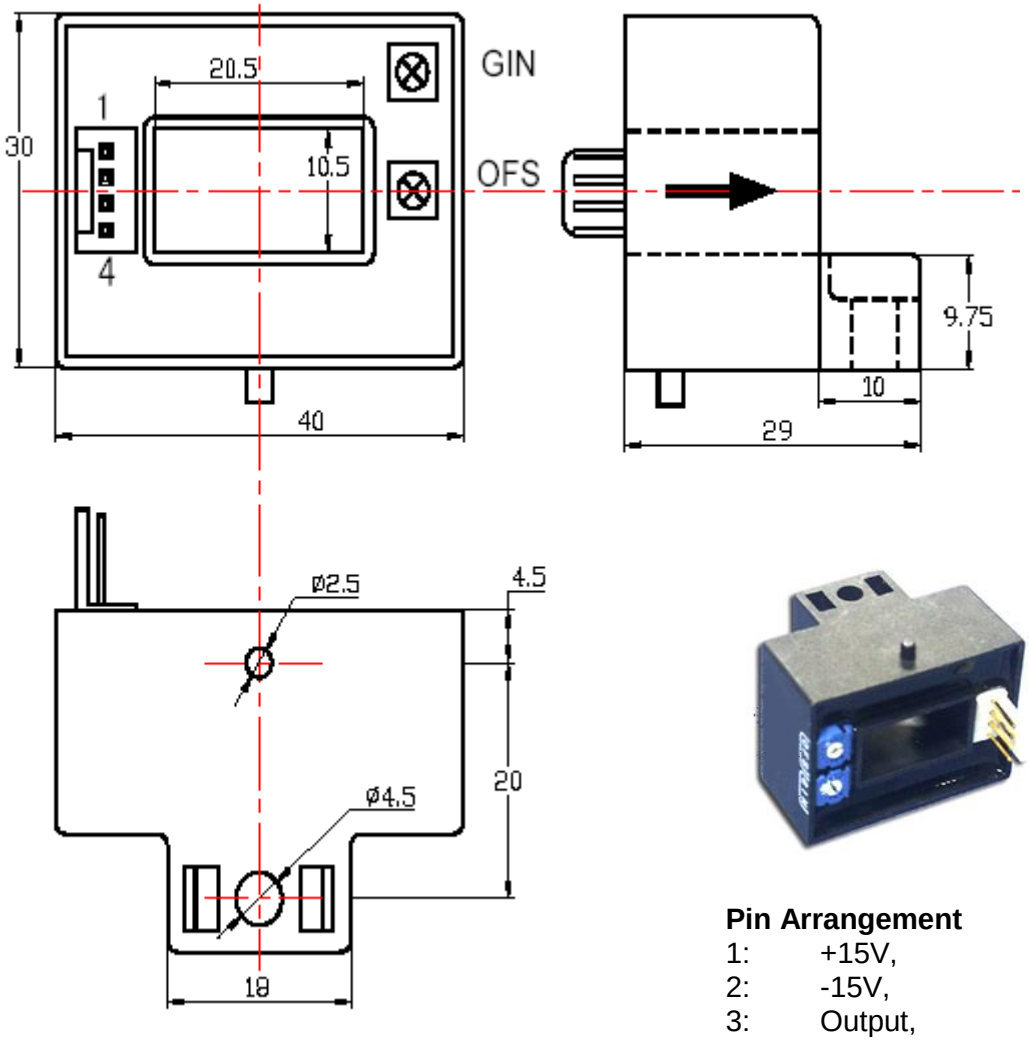
General Data

Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C

PIN Definition and Dimensions

With Molex Connector (part number CYHCS-K3-xxxx)



Pin Arrangement

1: +15V,
2: -15V,
3: Output,
4: Ground

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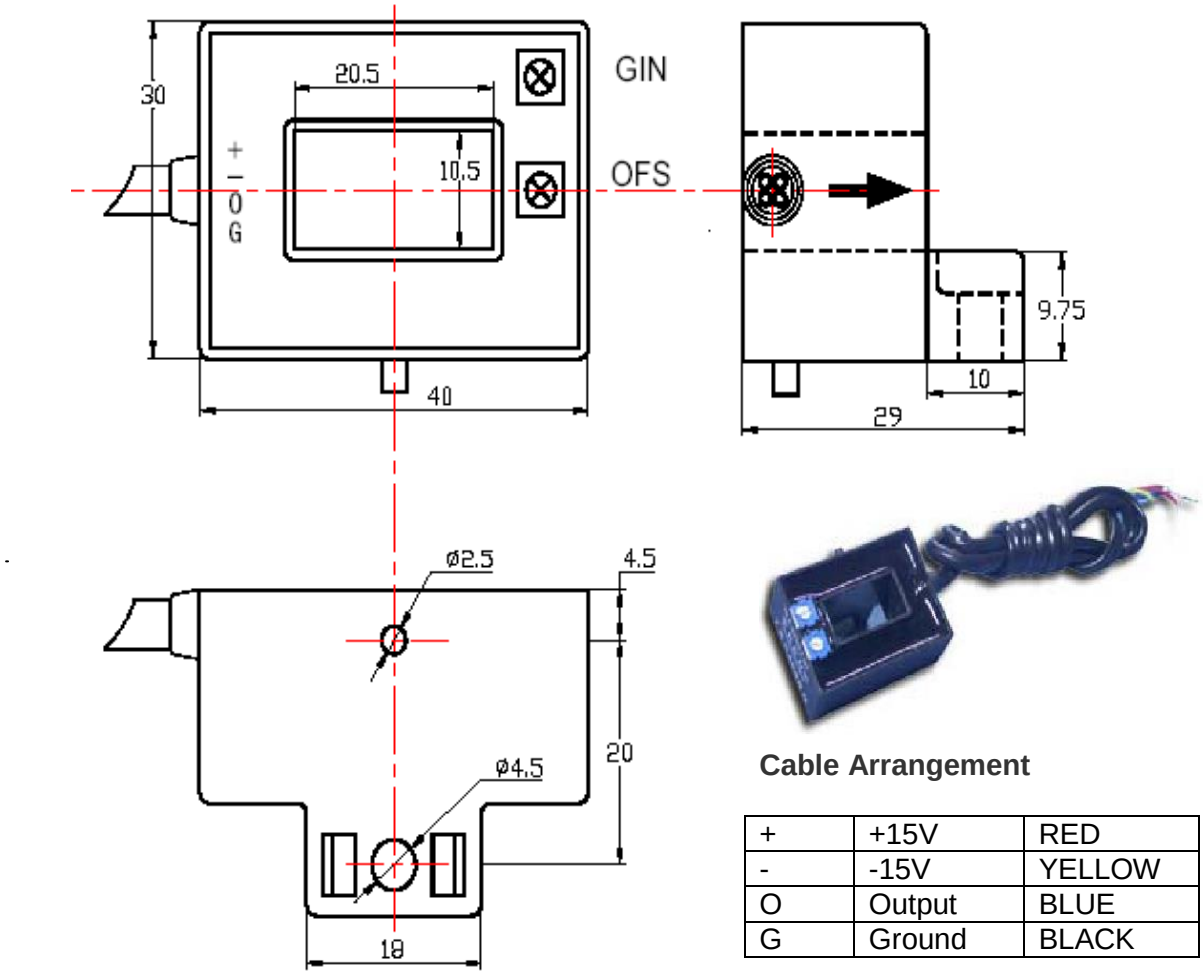
With cable connection (part number CYHCS-BR-xxxx)



Cable Arrangement

+	+15V	RED
-	-15V	YELLOW
O	Output	BLUE
G	Ground	BLACK

Cable type: RVV 4*9/0.15, diameter Φ4.1mm. It consists of 4 leads.
Each lead has 9 wires with diameter 0.15mm

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

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