ChenYang

Technologies GmbH & Co KG

AC/DC Split Core Hall Current Sensor CYHCS-C2T

This Hall Effect current sensor is based on open loop principle and designed with a split core and a high galvanic isolation between primary conductor and secondary circuit. It 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.

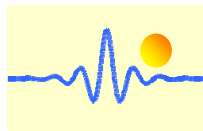| Product Characteristics	Applications
• Excellent accuracy • Very good linearity • Light in weight • Less power consumption • Window structure with split core • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability	• Frequency conversion timing equipment • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • 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)	Primary Current Measuring Range I_p(A) at Vcc=12V	Output Voltage (analog) (V)	Part number
30	$\pm$ 30		CYHCS-C2T-30A-xnC
50	$\pm$ 50		CYHCS-C2T-50A-xnC
100	$\pm$ 100	x=3: 2.5VDC±2.5V	CYHCS-C2T-100A-xnC
200	$\pm$ 200	x=8: 5VDC ± 5V	CYHCS-C2T-200A-xnC
300	$\pm$ 300		CYHCS-C2T-300A-xnC
400	$\pm$ 400		CYHCS-C2T-400A-xnC
500	$\pm$ 500		CYHCS-C2T-500A-xnC
600	$\pm$ 600		CYHCS-C2T-600A-xnC

(n=2, *Vcc*= +12VDC; n=3, *Vcc* =+15VDC; n=4, *Vcc* =+24VDC,
Connector: Molex connector C=M; Phoenix Connector: C=P)

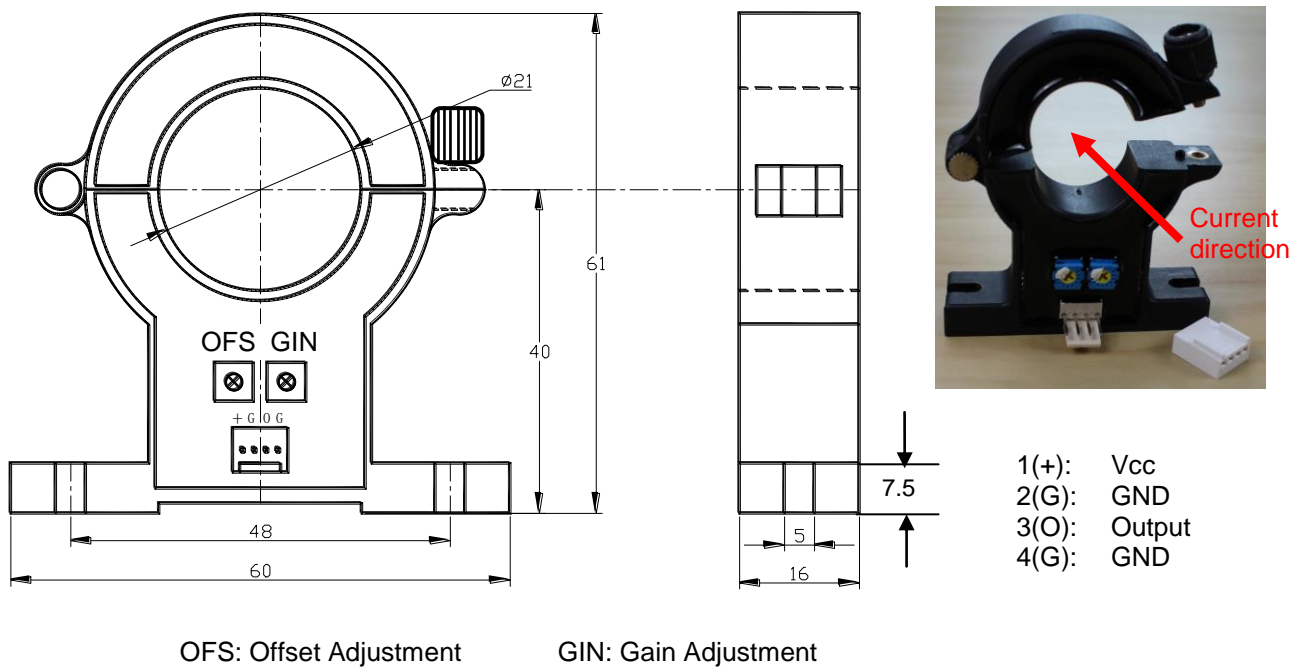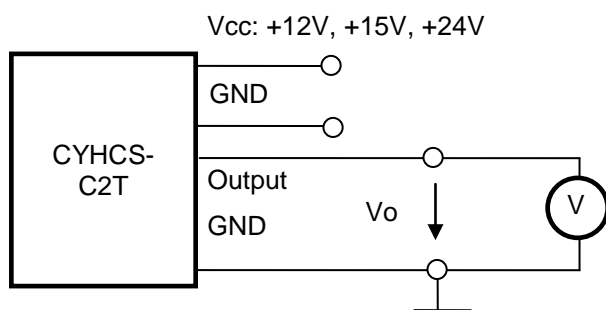|	
Current Consumption	I_c < 25mA
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,	V_{is} <10mA
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 10kΩ
Accuracy at I_r, T_A=25°C (without offset),	X <1.0%
Linearity from 0 to I_r, T_A=25°C,	E_L <1.0% FS
Electric Offset Voltage, T_A=25°C,	V_{oe}=2.5VDC±1.0% or 5VDC±1.0%
Magnetic Offset Voltage ($I_r \rightarrow$0)	V_{om} <$\pm$15mV
Thermal Drift of Offset Voltage,	V_{ot} <±1.0mV/°C
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 = 0-20 kHz
Mean Time Between Failures (MTBF):	50k - 100k hours

General Data

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

Version 1
Released in May 2016
Dr.-Ing. habil. Jigou Liu

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PIN Definition and Dimensions

OFS GIN

Ø21

61

40

48

60

7.5

5

16

1(+): Vcc
2(G): GND
3(O): Output
4(G): GND

OFS: Offset Adjustment   GIN: Gain Adjustment

Connection

Vcc: +12V, +15V, +24V

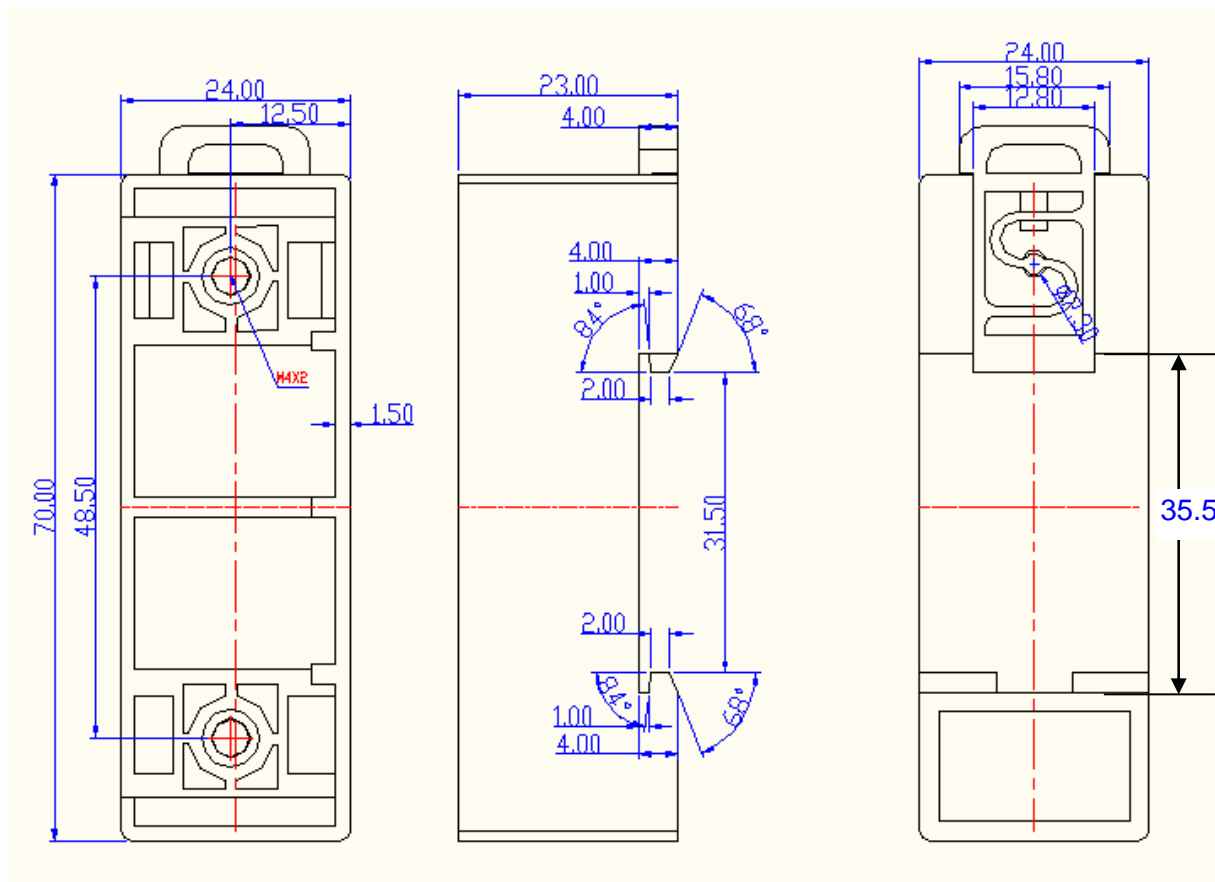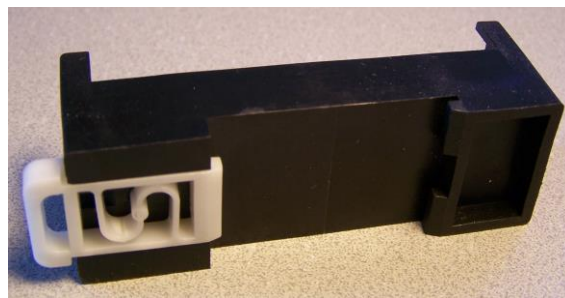CYHCS-C2T

GND

Output

GND

Vo

V

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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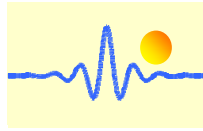
DIN Rail Adapter CY-DRA88

The DIN Rail Adapter CY-DRA88 is designed for mounting the sensor on 35mm DIN Rail. It has the size 70 x 24 x 23mm. The height from bottom to mounting surface is 14.8mm.

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Mounting of Sensors

Sensor with Molex Connector
(The distance between the bottom und the middle of hole is 54.8mm)

Sensor with Phoenix Connector
(The distance between the bottom und the middle of hole is 54.8mm)