ChenYang Technologies GmbH & Co KG

Hall Effect DC Current Sensor CYHCT-HBC

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 current, DC 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 • easy mounting • 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 • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal DC Current I_r (A)	Measuring Range (A)	DC Output Current (mA)	Window Size (mm)	Part number
2000	0~±2000	4-20 ±1.0%	140 x 50	CYHCT-HBC-U/B2000A-n
3000	0~±3000			CYHCT-HBC-U/B3000A-n
4000	0~±4000			CYHCT-HBC-U/B4000A-n
5000	0~±5000			CYHCT-HBC-U/B5000A-n
6000	0~±6000			CYHCT-HBC-U/B6000A-n
8000	0~±8000			CYHCT-HBC-U/B8000A-n
10000	0~±10000			CYHCT-HBC-U/B10000A-n

(U: unidirectional input current; B: bidirectional input current, please give U or B in Part number)
(n=3, *Vcc*= +12VDC ±5%; n=4, *Vcc* =+15VDC ±5%; n=5, *Vcc* =+24VDC±5%)

Supply Voltage	V_{cc}= +12V, +15V, +24VDC ± 5%
Output current:	4-20mADC
Current Consumption	I_c < 25mA + Output current
Galvanic isolation, 50/60Hz, 1min:	3kV rms
Isolation resistance @ 500 VDC	> 500 MΩ

Accuracy and Dynamic performance data

Accuracy at I_r, T_A=25°C,	X <±1.0% FS
Linearity from 0 to I_r, T_A=25°C,	E_L <±0.5% FS
Electric Offset current, T_A=25°C,	4mA DC or 12mA DC
Thermal Drift of Offset Current,	<±0.005mA/°C
Response Time at 90% of I_P	t_r < 1ms
Load resistance:	80-450Ω
Frequency Bandwidth (-3dB),	f_b = DC - 20 kHz
Case Material:	PBT

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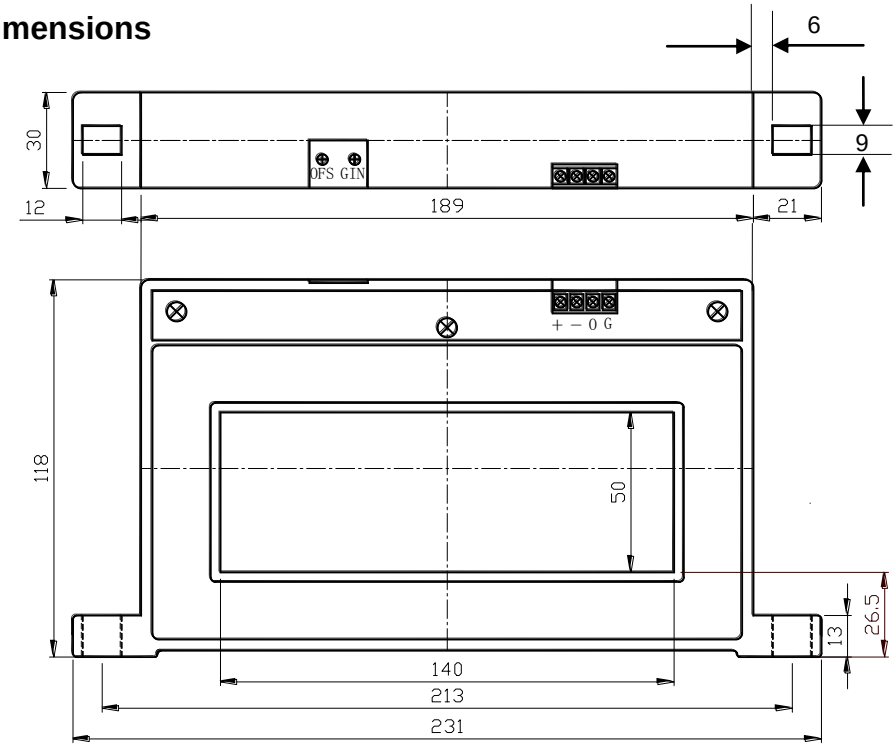
General Data

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

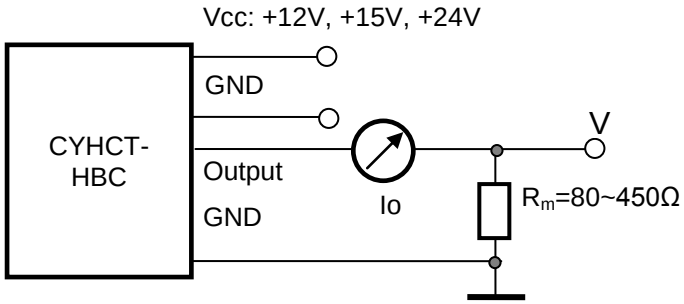
Dimensions



Pin Arrangement

+: Vcc
-: Ground (GND)
O: Output
G: Ground (GND)

GIN: gain adjustment
OFS: offset adjustment



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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