ChenYang
Technologies GmbH & Co KG

Hall Effect AC/DC Current Sensor CYHCS-EDT

This Hall Effect current sensor is based on open loop principle and designed with a solid core and a high galvanic isolation between primary conductor and secondary circuit. It can be used for measurement of AC/DC current etc. The output of the transducer reflects the real wave of the current carrying conductor. It can be mounted on the primary cable directly.

Product Characteristics	Applications
• Excellent accuracy • Very good linearity • Light in weight • Less power consumption • Window structure, easily mounting • 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 • Numerical controlled machine tools • Electrolyzing and electroplating equipment • 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)	Output Voltage (Analog) (V)	Part number
30A	0 ~ ± 45A	2.5V±1.25 ±1.0%	CYHCS-EDT-30A
50A	0 ~ ± 75A		CYHCS-EDT-50A
100A	0 ~ ± 150A		CYHCS-EDT-100A
200A	0 ~ ± 300A		CYHCS-EDT-200A
300A	0 ~ ± 450A		CYHCS-EDT-300A
400A	0 ~ ± 600A		CYHCS-EDT-400A
500A	0 ~ ± 750A		CYHCS-EDT-500A

Supply Voltage:	V_{cc}=+5VDC ± 5%
Current Consumption	I_c < 20mA
Isolation Voltage	2,5kV, 50/60Hz, 1min

Electrical Data/Output

Output Voltage at I_r, T_A=25°C:	V_{out} =2.5V±1.25V ±1.0%
Output Impedance:	R_{out} < 150Ω
Load Resistor:	R_L > 2kΩ

Accuracy

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 <0.5% FS
Electric Offset Voltage, T_A=25°C,	V_{oe} =2.5V±0.025V
Thermal Drift of Offset Voltage (Ip=0, -40°C~+100°C),	V_{ot} <±0.5mV/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Frequency Bandwidth (-3dB),	f_b = DC-20 kHz
Ambient Operating Temperature,	T_A =-25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +105°C

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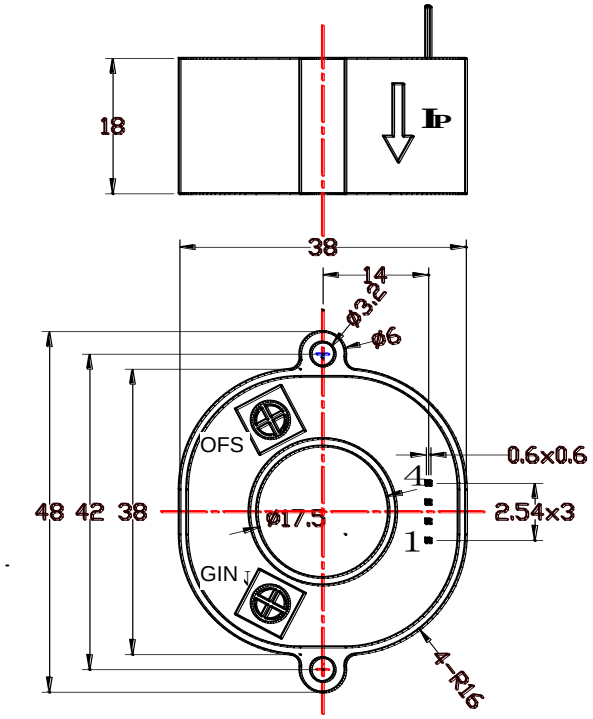
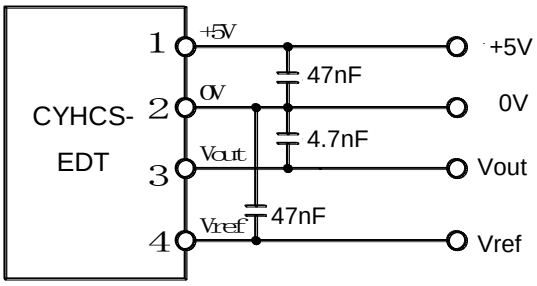
PIN Definition and Dimensions



OFS: Offset Adjustment

GIN: Gain Adjustment



Pin arrangement:

1 (Vcc): +5V

2 (GND): 0V

3 (OUT): OUTPUT

4 (Ref): Vref=2.5V

Window size Φ17.5mm

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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