ChenYang Technologies GmbH & Co KG

Split Core Open Loop Hall AC/DC Current Sensor CYHCS-KF-X

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 • Split core 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 Signal (Analog)	Window size (mm)	Part number
200	0~220	X=4V: 0 – 4V X=5V: 0 – 5V X=20mA: 0 – 20mA X=40mA: 0 – 40mA	41x13	CYHCS-KF200A-X
400	0~440			CYHCS-KF400A-X
500	0~550			CYHCS-KF500A-X
600	0~660			CYHCS-KF600A-X
800	0~880			CYHCS-KF800A-X
1000	0~1100			CYHCS-KF1000A-X

Supply Voltage	V_{cc}= +12~+15V ± 5%
Current Consumption Vcc=+15V	I_c < 25mA + Iout
Galvanic isolation, 50/60Hz, 1min:	3kV rms
Load resistance for voltage output:	10kΩ
Measuring resistance for current output	40 – 200 Ω

Accuracy and Dynamic performance data

Accuracy at I_r, T_A=25°C (without offset),	E<±0.5% FS
Linearity from 0 to I_r, T_A=25°C,	E_L <±0.5% FS
Electric Offset Voltage/Current, T_A=25°C,	V_{oe}<±25mV / I_{oe}≤0.2mA
Magnetic Offset Voltage (I_r →0)	V_{om} <±25mV
Thermal Drift of Offset Voltage/Current,	V_{ot} <±1.0mV/°C/ I_{ot} <±0.005mA/°C
Thermal Drift (-10°C to 50°C),	T.C. < ±0.1% /°C
Frequency bandwidth (- 3 dB):	DC-20kHz
Response Time at 90% of I_P (f=1k Hz)	t_r < 7µs
Ambient Operating Temperature,	T_A = -25°C ~ +85°C
Ambient Storage Temperature,	T_S =-40°C ~ +100°C
Unit weight:	237g/unit
Used Standard:	Q/320115QHKJ01-2016

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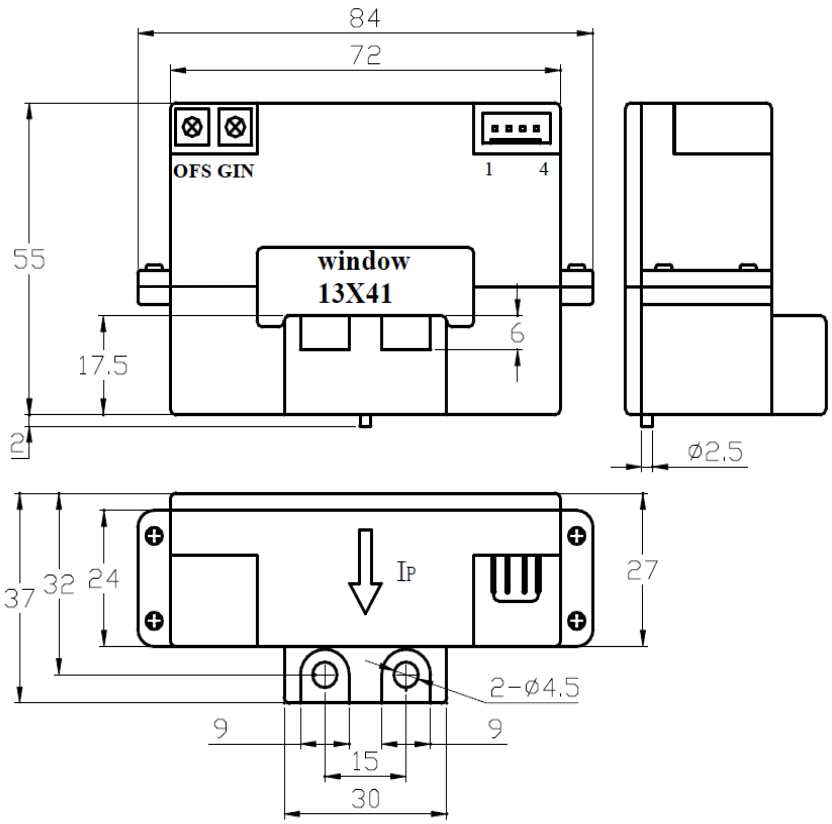
Dimensions



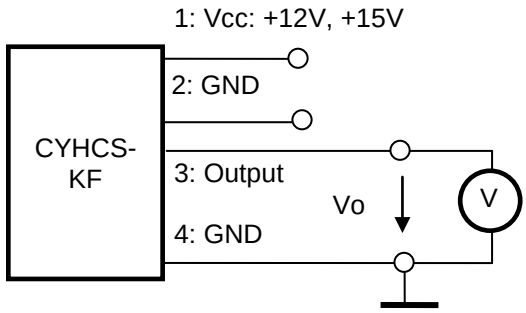
Pin Arrangement

1: Vcc
2: GND (0V)
3: Output
4: GND(0V)

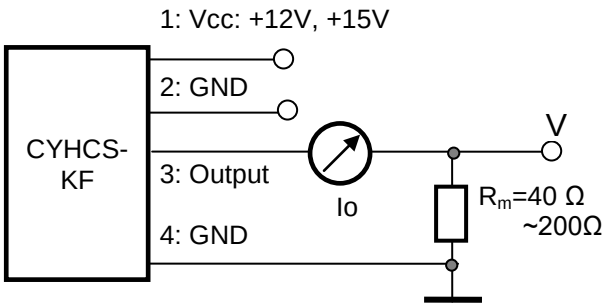
OFS: Zero adjustment
GIN: Gain adjustment

Sensor Connection

Sensor with voltage output



Sensor with current output



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 primary current is the same as the direction of arrow marked on the transducer

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