

Hall Effect DC Current Sensor CYHCT-K210V

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

Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Less power consumption • Window structure • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload capability 	<ul style="list-style-type: none"> • Photovoltaic equipment • Frequency conversion timing equipments • Various power supply • Uninterruptible power supplies (UPS) • Electric welding machines • Numerical controlled machine tools • Electrolyzing and electroplating equipments • Electric powered locomotive • Microcomputer monitoring • Electric power network monitoring

Electrical Data

Primary Nominal DC Current I_r (A)	Primary Current Measuring Range I_p (A)	Output Voltage (V)	Part number
3000A	0 ~ ± 3000A	x=0: 0-4V ±1.0%	CYHCT-K210V-U/B3000A-xn
4000A	0 ~ ± 4000A	x=3: 0-5V ±1.0%	CYHCT-K210V-U/B4000A-xn
5000A	0 ~ ± 5000A	x=8: 0-10V ±1.0%	CYHCT-K210V-U/B5000A-xn
6000A	0 ~ ± 6000A	(For 0-10V output	CYHCT-K210V-U/B6000A-xn
8000A	0 ~ ± 8000A	the power supply	CYHCT-K210V-U/B8000A-xn
10000A	0 ~ ± 10000A	must be 15VDC	CYHCT-K210V-U/B10000A-xn
15000A	0 ~ ± 15000A	or 24VDC)	CYHCT-K210V-U/B15000A-xn
20000A	0 ~ ± 20000A	x=S: Special output	CYHCT-K210V-U/B20000A-xn

(n=2, V_{cc} = +12VDC; n=3, V_{cc} =+15VDC; n=4, V_{cc} =+24VDC; n=5, V_{cc} =±12VDC; n=6, V_{cc} =±15VDC; n=7, V_{cc} =±24VDC; n=8, V_{cc} =+125VDC. U: unidirectional, B: bidirectional, please give U or B in the part number)

Supply Voltage:

Current Consumption

Isolation Voltage

V_{cc} =+12V, +15V, +24V± 5%

I_c < 50mA

6kV, 50/60Hz, 1min

Output Voltage at I_r , $T_A=25^\circ\text{C}$:

Output Impedance:

Load Resistor:

Accuracy at I_r , $T_A=25^\circ\text{C}$ (without offset),

Linearity from 0 to I_r , $T_A=25^\circ\text{C}$,

Linear Measuring range,

Overload capability,

Electric Offset Voltage, $T_A=25^\circ\text{C}$,

Magnetic Offset Voltage ($I_r \rightarrow 0$)

Thermal Drift of Offset Voltage,

Thermal Drift (-10°C to 50°C),

Response Time at 90% of I_p ($f=1\text{k Hz}$)

Frequency Bandwidth (-3dB),

V_{out} =0- 4V, 0-5V, 0-10VDC

R_{out} < 150Ω

R_L > 10kΩ

X <1.0%

E_L <1.0% FS

1.2 times of measuring range

3 times of measuring range

V_{oe} <30mV

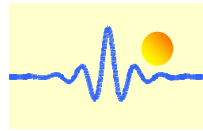
V_{om} <±40mV

V_{ot} <±1.0mV/°C

T.C. < ±0.1% /°C

t_r < 1ms

f_b = DC-3kHz

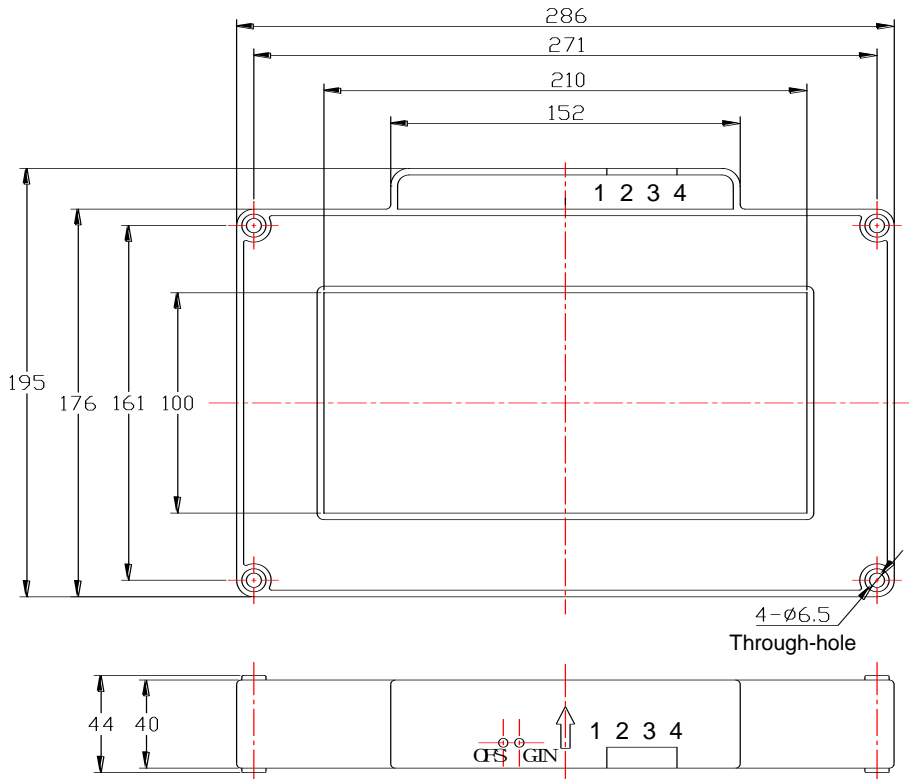


General Data

Ambient Operating Temperature,
Ambient Storage Temperature,

$T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$
 $T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$

PIN Definition and Dimensions

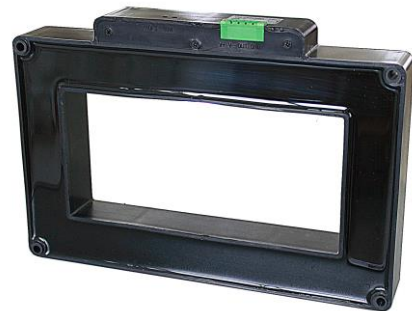
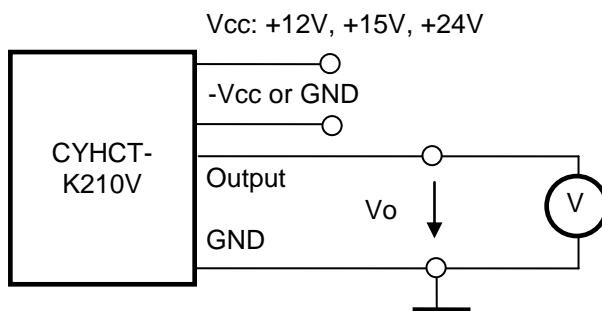


Pin arrangement:

1(V+): Vcc
2(V-): -Vcc or GND
3(OUT): OUTPUT
4(GND): 0V (GND)

OFS: Offset Adjustment

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