

Split Core Hall DC Current Sensor CYHCT-KC

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 rectified average value of the current in the carrying conductor.

Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Using split cores and 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 	<ul style="list-style-type: none"> • 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
300	0~±300	4-20 ±1.0%	64x16	CYHCT-KC-U/B300A-n
500	0~±500			CYHCT-KC-U/B500A-n
600	0~±600			CYHCT-KC-U/B600A-n
800	0~±800			CYHCT-KC-U/B800A-n
1000	0~±1000			CYHCT-KC-U/B1000A-n
1500	0~±1500			CYHCT-KC-U/B1500A-n
2000	0~±2000			CYHCT-KC-U/B2000A-n

(U: unidirectional input current; B: bidirectional input current, please give U or B in Part number)
(n=3, $V_{cc} = +12VDC \pm 5\%$; n=4, $V_{cc} = +15VDC \pm 5\%$; n=5, $V_{cc} = +24VDC \pm 5\%$)

Supply Voltage
Current Consumption
Galvanic isolation, 50/60Hz, 1min:
Isolation resistance @ 500 VDC

$V_{cc} = +12V, +15V, +24VDC \pm 5\%$
 $I_c < 25mA + \text{Output current}$
3kV rms
> 500 M Ω

Accuracy and Dynamic performance data

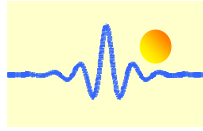
Accuracy at I_r , $T_A = 25^\circ C$,
Linearity from 0 to I_r , $T_A = 25^\circ C$,
Electric Offset current, $T_A = 25^\circ C$,
Thermal Drift of Offset Current,
Response Time at 90% of I_P
Load resistance:
Frequency Bandwidth (-3dB),

$X < \pm 1.0\% \text{ FS}$
 $E_L < \pm 0.5\% \text{ FS}$
4mA DC or 12mA DC
< $\pm 0.005 \text{ mA}/^\circ C$
 $t_r < 10 \mu s$
80-450 Ω
 $f_b = DC - 20 \text{ kHz}$

General Data

Ambient Operating Temperature,

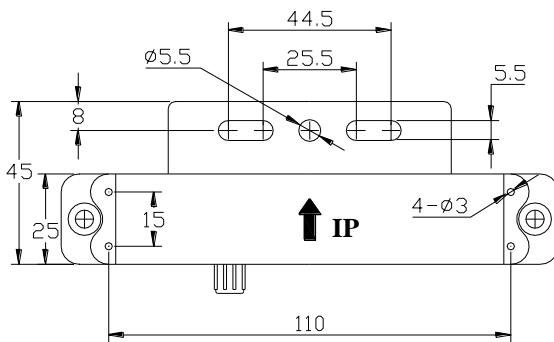
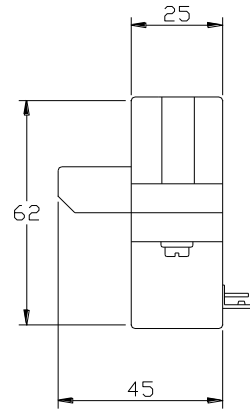
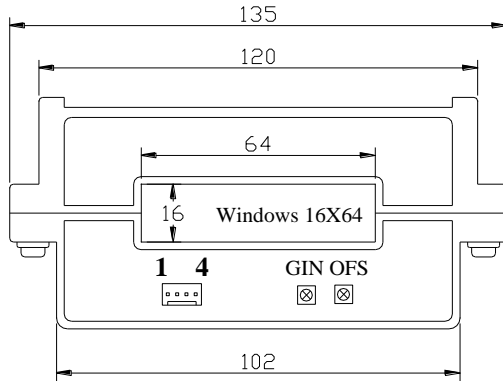
$T_A = -25^\circ C \sim +85^\circ C$



Ambient Storage Temperature,
Unit weight:
Case Material:

$T_S = -40^{\circ}\text{C} \sim +100^{\circ}\text{C}$
300g/unit
PBT

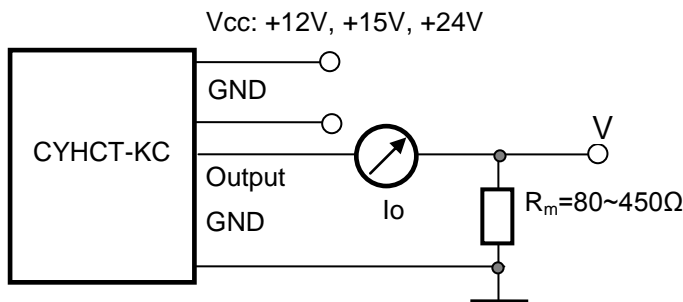
Dimensions



Pin Arrangement

- 1: Vcc
- 2: Ground (GND)
- 3: Output
- 4: 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