

Open Loop Hall Current Sensor CYHCT-BTV

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 |
|---|---|
| <ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Light in weight • 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

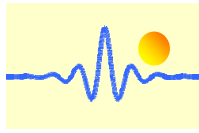
| Primary Nominal Current I_r (A) | Measuring Range (A) | Output voltage | Aperture measures (mm) | Part number |
|-----------------------------------|---------------------|--|------------------------|----------------------|
| 50 | 0 ~ ±50 | x=0: 0-4V ±1.0% x=3: 0-5V ±1.0% x=8: 0-10V ±1.0% | 20.5x10.5 | CYHCT-BTV-U/B050A-xn |
| 100 | 0 ~ ±100 | | | CYHCT-BTV-U/B100A-xn |
| 200 | 0 ~ ±200 | | | CYHCT-BTV-U/B200A-xn |
| 300 | 0 ~ ±300 | | | CYHCT-BTV-U/B300A-xn |
| 400 | 0 ~ ±400 | | | CYHCT-BTV-U/B400A-xn |
| 500 | 0 ~ ±500 | | | CYHCT-BTV-U/B500A-xn |
| 600 | 0 ~ ±600 | | | CYHCT-BTV-U/B600A-xn |

(n=2, V_{cc} = +12VDC; n=3, V_{cc} =+15VDC; n=4, V_{cc} =+24VDC, U: unidirectional, B: bidirectional)

| | |
|--|---------------------------------|
| Supply Voltage: | V_{cc} =+12V, +15V, +24V± 5% |
| Output Voltage at I_r , $T_A=25^\circ\text{C}$: | V_{out} =0- 4V, 0-5V, 0-10VDC |
| Current Consumption | I_c < 25mA |
| Galvanic isolation, 50/60Hz, 1min: | 2.5kV |
| Isolation resistance @ 500 VDC | > 500 MΩ |

Accuracy and Dynamic performance data

| | |
|--|------------|
| Accuracy at I_r , $T_A=25^\circ\text{C}$, | <1.0% FS |
| Linearity from 0 to I_r , $T_A=25^\circ\text{C}$, | <0.5% FS |
| Zero Output Voltage, $T_A=25^\circ\text{C}$, | <50mV |
| Hysteresis offset voltage: | <±25mV |
| Thermal Drift of Offset Voltage, | <±1.0mV/°C |
| Frequency bandwidth (- 3 dB): | DC-20kHz |
| Response Time at 90% of I_P ($f=1\text{k Hz}$) | < 1ms |

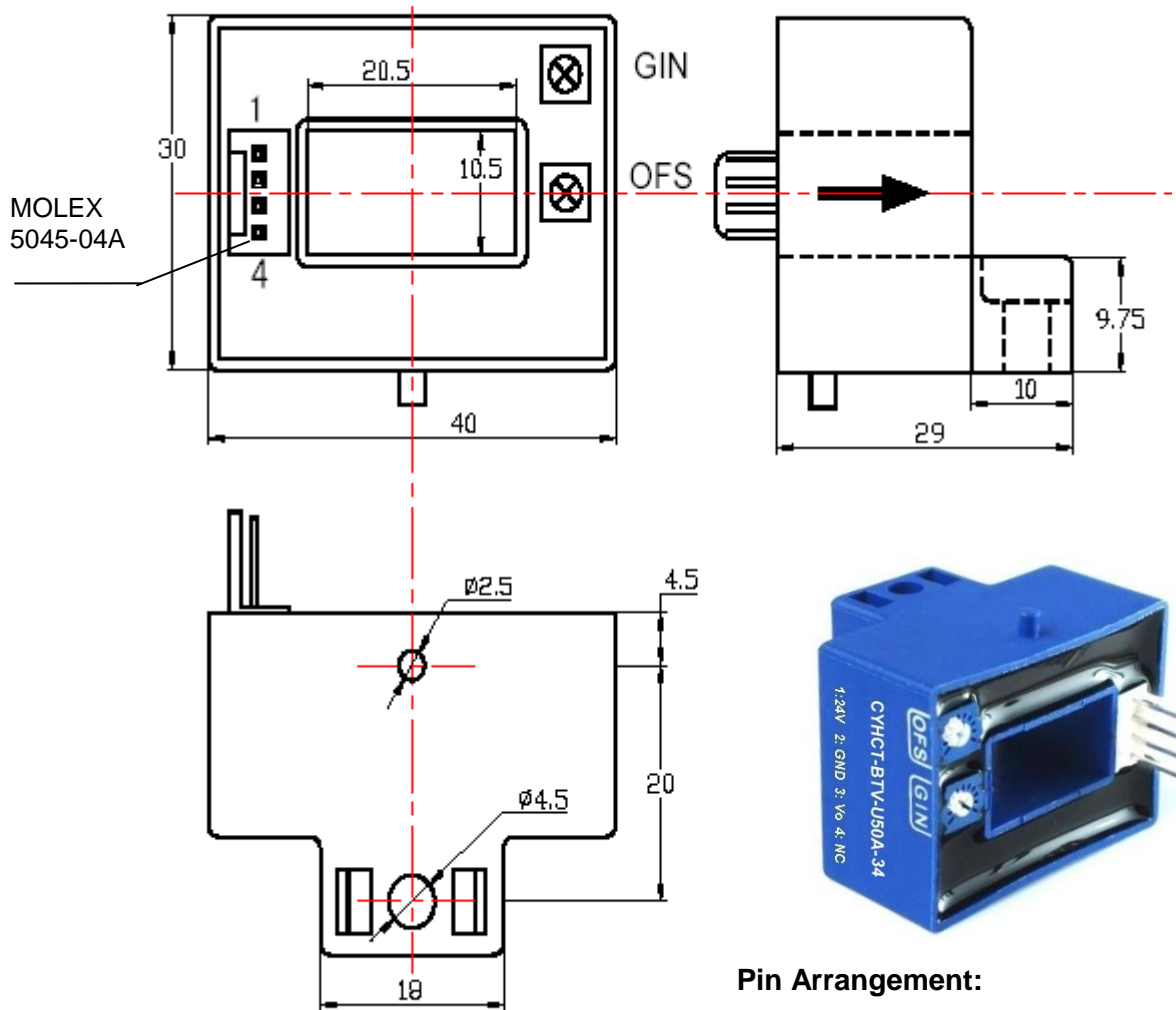


General Data

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: Vcc; 2: Ground;
3: Output; 4: NC

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