

AC Open Loop Hall Current Sensor CYHCS-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 AC current, 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 • 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

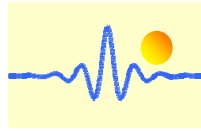
Primary Nominal Current I_r (A), rms	Measuring Range (A)	DC Output voltage	Window Sizes (mm)	Part number
50	0 ~ ±50	x=0: 0-4V ±1.0% x=3: 0-5V ±1.0% x=8: 0-10V ±1.0%	20.5x10.5	CYHCS-BTV-50A-xn
100	0 ~ ±100			CYHCS-BTV-100A-xn
200	0 ~ ±200			CYHCS-BTV-200A-xn
300	0 ~ ±300			CYHCS-BTV-300A-xn
400	0 ~ ±400			CYHCS-BTV-400A-xn
500	0 ~ ±500			CYHCS-BTV-500A-xn
600	0 ~ ±600			CYHCS-BTV-600A-xn

(n=2, V_{cc} = +12VDC ±5%; n=3, V_{cc} =+15VDC ±5%; n=4, V_{cc} =+24VDC±5%)

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 rms
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):	20Hz-20kHz
Response Time at 90% of I_P ($f=1\text{k Hz}$)	< 200ms

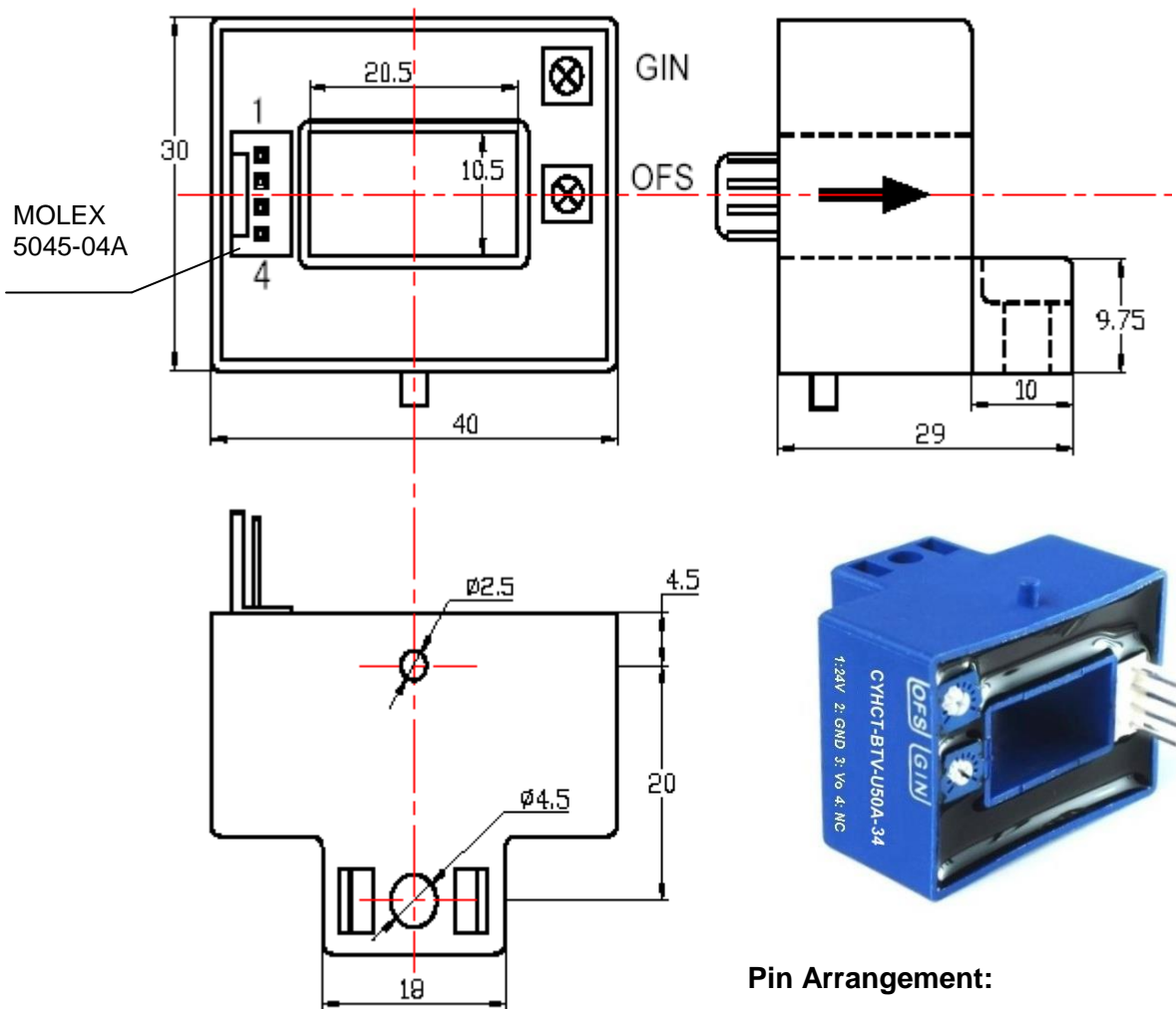


General Data

Ambient Operating Temperature,
Ambient Storage Temperature,

$T_A = -25^{\circ}\text{C} \sim +85^{\circ}\text{C}$
 $T_S = -55^{\circ}\text{C} \sim +100^{\circ}\text{C}$

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.