

Hall Effect AC Current Sensor CYHCS-C1TV

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.

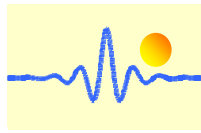
Product Characteristics	Applications
<ul style="list-style-type: none"> • Excellent accuracy • Very good linearity • Light in weight • Less power consumption • Window structure • Electrically isolating the output of the transducer from the current carrying conductor • No insertion loss • Current overload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

Electrical Data

Primary Nominal RMS Current I_r (A)	Measuring Range (A)	DC Output Voltage (V)	Aperture Diameter (mm)	Part number
25	0-25	x=0: 0-4V $\pm 1.0\%$ x=3: 0-5V $\pm 1.0\%$ x=8: 0-10V $\pm 1.0\%$	$\varnothing 20$	CYHCS-C1TV-25A-xnC
30	0-30			CYHCS-C1TV-30A-xnC
40	0-40			CYHCS-C1TV-40A-xnC
50	0-50			CYHCS-C1TV-50A-xnC
100	0-100			CYHCS-C1TV-100A-xnC
200	0-200			CYHCS-C1TV-200A-xnC
300	0-300			CYHCS-C1TV-300A-xnC
400	0-400			CYHCS-C1TV-400A-xnC
500	0-500			CYHCS-C1TV-500A-xnC
600	0-600			CYHCS-C1TV-600A-xnC

(n=2, $V_{cc} = +12VDC \pm 5\%$; n=3, $V_{cc} = +15VDC \pm 5\%$; n=4, $V_{cc} = +24VDC \pm 5\%$)
(Connector: Molex connector C=M; Phoenix Connector: C=P)

Supply Voltage:	$V_{cc} = +12V, +15V, +24V \pm 5\%$
Current Consumption	$I_c < 25mA$
Isolation Voltage	2.5kV, 50/60Hz, 1min
Output Impedance:	$R_{out} < 150\Omega$
Load Resistor:	$R_L > 10k\Omega$
Accuracy at I_r , $T_A = 25^\circ C$,	$X < 1.0\% FS$
Linearity from 0 to I_r , $T_A = 25^\circ C$,	$E_L < 1.0\% FS$
Electric Offset Voltage, $T_A = 25^\circ C$,	$V_{oe} < 50mV$
Magnetic Offset Voltage ($I_r \rightarrow 0$)	$V_{om} < \pm 20mV$
Thermal Drift of Offset Voltage,	$V_{ot} < \pm 1.0mV/^\circ C$
Thermal Drift ($-10^\circ C$ to $50^\circ C$),	T.C. $< \pm 0.1\% /^\circ C$
Response Time at 90% of I_P ($f = 1k Hz$)	$t_r < 200ms$
Frequency Bandwidth (-3dB),	$f_b = 20Hz - 20 kHz$
Case Material:	PBT, heat resistant $100^\circ C$ flame retardant

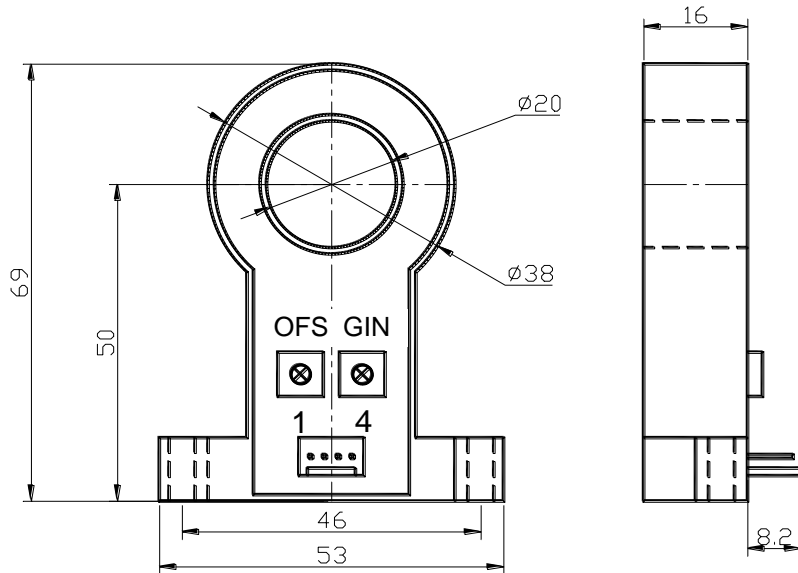


General Data

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

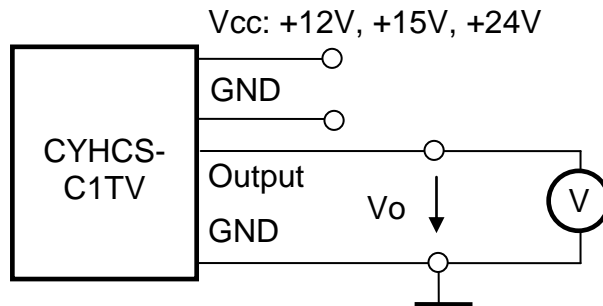


1(+): Vcc
2(G): GND
3(O): Output
4(G): GND

OFS: Offset Adjustment

GIN: Gain Adjustment

Connection



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