High Accurate Hall Current Sensor CYHCS-LTH

This Hall Effect current sensor is based on open loop compensating principle and designed with a split core and a high galvanic isolation between primary and secondary circuits. It can be used for measurement of DC and AC current, pulse currents etc. The output of the transducer reflects the real wave of the current carrying conductor.

Product Characteristics	Applications
• 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	• Frequency conversion timing equipments • 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 RMS Current I_r (A)	Measuring Range (A)	Output voltage (V)	Aperture Diameter (mm)	Part number
10	± 30	4 ±0.2%	Ø20.2	CYHCS-LTH10A
20	± 60			CYHCS-LTH20A
50	± 150			CYHCS-LTH50A
75	± 225			CYHCS-LTH75A
100	± 300			CYHCS-LTH100A
200	± 500			CYHCS-LTH200A
300	± 600			CYHCS-LTH300A
500	± 1000			CYHCS-LTH500A

Supply Voltage	V_{cc}= ±15V ± 5%,
Current Consumption	I_c < 20mA
Galvanic isolation, 50/60Hz, 1min:	5kV
Isolation resistance @ 500 VDC	> 500 MΩ

Accuracy and Dynamic performance data

Accuracy at I_r, T_A=25°C (without offset),	X <0.5%
Linearity from 0 to I_r, T_A=25°C,	E_L <0.2% FS
Electric Offset Voltage, T_A=25°C,	V_{oe} <±15mV
Magnetic Offset Voltage ($I_r \rightarrow 0$)	V_{om} <±15mV
Thermal Drift of Offset Voltage,	V_{ot} <±0.5mV/°C
Response Time at 90% of I_P (f=1k Hz)	t_r < 3µs
Frequency bandwidth (- 3 dB):	DC-20kHz

General Data

Ambient Operating Temperature,	T_A = -40°C ~ +85°C
Ambient Storage Temperature,	T_S =-55°C ~ +125°C

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PIN Definition and Dimensions

Terminal Definition:

+: +15V -: -15V O: Output G: Ground

Notes:

1. Connect the terminals of power source, outputs 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

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