

High Accurate Hall AC/DC Current Sensor CYHCS-LTHB

This Hall Effect current sensor is based on closed loop compensating principle and designed with a high galvanic isolation between primary conductor and secondary circuit. 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
<ul style="list-style-type: none">• Excellent accuracy• Very good linearity• Small size and encapsulated• Less power consumption• Current overload capability	<ul style="list-style-type: none">• Photovoltaic equipment• General Purpose Inverters• AC/DC Variable Speed Drivers• Battery Supplied Applications• Uninterruptible Power Supplies (UPS)• Switched Mode Power Supplies

ELECTRICAL DATA

Part number	CYHCS-LTHB-300A	CYHCS-LTHB-400A	CYHCS-LTHB-500A	
Nominal current	300	400	500	A
Measuring range	900(±24V, 39 Ω)	1200 (±24V, 36Ω)	1500 (±24V, 24Ω)	A
Turns ratio	1:3000	1:4000	1:5000	
Measuring resistance	with±15V DC			
	@±300A max 100(max)	@±400Amax 100(max)	@±500Amax 91(max)	Ω
	@±600A max 36(max)	@±800Amax 30(max)	@±1000Amax 20(max)	Ω
	with±18VDC			
	@±300Amax 130(max)	@±400Amax 130(max)	@±500Amax 120(max)	Ω
	@±600Amax 51(max)	@±800Amax 43(max)	@±1000Amax 33(max)	Ω
Nominal output current	100±0.2%FS	100±0.2%FS	100±0.2%FS	mA
Secondary resistance	31	40	50	Ω
Supply voltage	±15 ~ ±24			V
Current consumption	20 + output current			mA
Galvanic isolation	50Hz, 1min, 6			kV

ACCURACY DYNAMIC PERFORMANCE

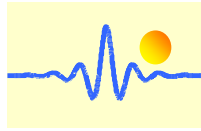
Zero offset current	±0.2	mA
Thermal drift of offset current	-40°C ~ +85°C, ±0.5	mA
Response time	<1.0	µs
Linearity	≤0.1	%FS
Bandwidth(-3dB)	DC...100	kHz
di/dt following accuracy	>100	A/µs
Reference Standard	UL94-V0, EN60947-1:2004, IEC60950-1:2001, SJ 20790-2000	

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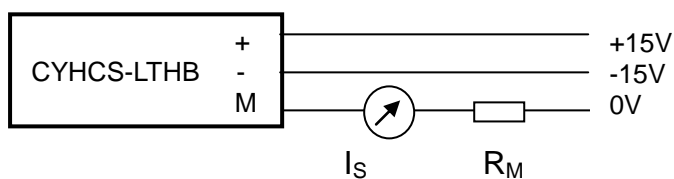
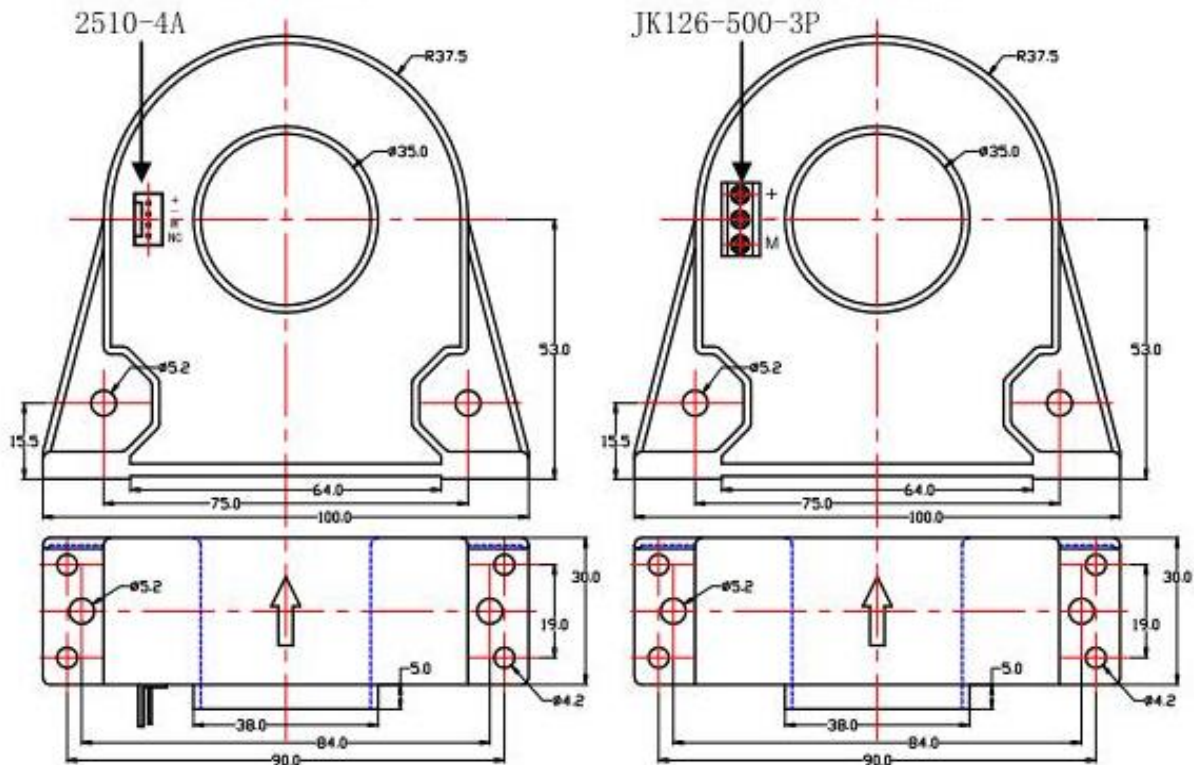
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GENERAL DATA

Operating temperature	-40 ~ +85	°C
Storage temperature	-40 ~ +125	°C
Unit weight	290	g

Dimensions (mm)



Terminal Arrangement

+: +15V
-: -15V
M: Output



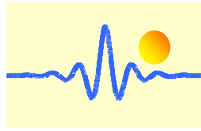
Current direction

Remarks:

CYHCS-LTHB can be divided into two types CYHCS-LTHB1 and CYHCS-LTHB2

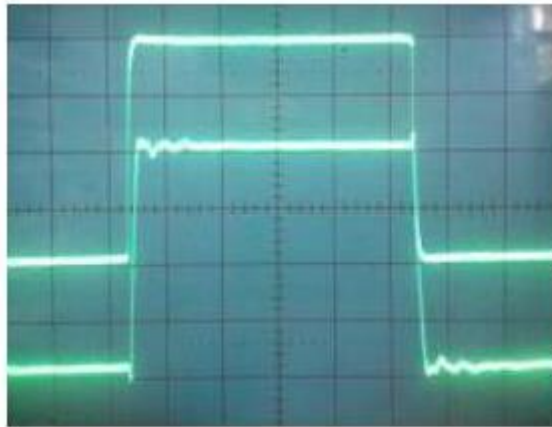
1. All dimensions are in mm.
2. General tolerance ± 1 mm.
3. TBC-LTHB1: with Molex connector (Molex 22011042: 5045-04AG, 5051-04)
4. TBC-LTHB2: with DG300-5.0 connector

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Characteristics chart

Response characteristics of an impulse current signal



Input impulse current

Output Impulse voltage

Effect of impulse noise



Output voltage

Operating instructions

1. Connect the terminals of power source, output respectively and correctly, never make wrong connection for DC current.
2. Temperature of the primary conductor should not exceed 120 °C.
3. Dynamic performances (di/dt and the response time) are best with a single bar completely filling the primary hole.
4. In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.

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