



# DATA SHEET

## Hall Effect Current Sensor

PN: CHB\_EC15D50

IPN=50~100A

### Feature

- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC  $\pm 12\sim 15$  V

### Advantages

- High accuracy
- Easy installation
- Low temperature drift
- Optimized response time
- High immunity to external interference
- Very good linearity
- Can be customized

### Applications

- The application of induction cooker
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications



RoHS

### Electrical data: (Ta=25°C, Vc= ±15VDC)

Ref	CHB50EC15D50	CHB75EC15D50	CHB100EC15D50
<b>Parameter</b>			
Rated input I <sub>pn</sub> (A)	50	75	100
Measuring range I <sub>p</sub> (A)	0 ~ ±100	0 ~ ±150	0 ~ ±200
Turns ratio N <sub>p</sub> /N <sub>s</sub> (T)	1:1000	1:1500	1:2000
Output current rms I <sub>S</sub> (mA)	±50*IP/IPN	±50*IP/IPN	±50*IP/IPN
Secondary coil resistance R <sub>S</sub> (Ω)	30	32	42
Inside resistance R <sub>M</sub> (Ω)	[(V <sub>C</sub> -2.0V)/(I <sub>S</sub> *0.001)]-R <sub>S</sub>		
Supply voltage V <sub>C</sub> (V)	( ±12 ~ ±15 ) ±5%		
Accuracy X <sub>G</sub> (%)	@IPN,T=25°C	< ±0.5	
Offset current IOE(mA)	@IP=0,T=25°C	< ±0.2	
Temperature variation of IOE IOT(mA/°C)	@IP=0,-40 ~ +85°C	< ±0.005	
Linearity error ε <sub>r</sub> (%FS)		< 0.1	
Di/dt accurately followed (A/μs)		> 100	
Response time τ <sub>ra</sub> (μs)	@90% of IPN	< 1.0	
Power consumption I <sub>C</sub> (mA)		15+I <sub>s</sub>	



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Bandwidth BW(KHZ)	@-3dB,IPN	DC-200
Insulation voltage Vd(KV)	@50/60Hz, 1min,AC	3.0

## General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55~ +125
Mass M(g)	15
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

## Dimensions(mm):

	<p style="text-align: center;">Connection</p> <p style="text-align: center;">General tolerance</p> <p>General tolerance: &lt;math&gt;\pm 0.2\text{mm}&lt;/math&gt;          Primary through-hole : <math>D 8.2 \pm 0.15\text{mm}</math>          Secondary pin: 3pin 0.65*0.65</p>
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## Remarks:

- When the current goes through the primary pin of a sensor, the voltage will be measured at the output end.
- Custom design is available for the different rated input current and the output voltage.
- The dynamic performance is the best when the primary hole if fully filled with.
- The primary conductor should be  $<100^{\circ}\text{C}$ .

**WARNING : Incorrect wiring may cause damage to the sensor.**

