



# DATA SHEET

## Hall Effect Current Sensor

PN: CHB\_BA15D50/100

IPN=50~400A

### 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  $\pm 12 \sim 18$  V

### Advantages

- High accuracy
- Easy installation
- Low temperature drift
- Optimized response time
- Low power consumption
- 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: ( $T_a=25^\circ\text{C}$ , $V_c= \pm 15\text{VDC}$ )

Parmeter	Ref	CHB50 BA15D50	CHB100 BA15D100	CHB200 BA15D100	CHB300 BA15D100	CHB400 BA15D100
Rated input $I_{pn}(A)$		50	100	200	300	400
Measuring range $I_p(A)$		0 ~ $\pm 150$	0 ~ $\pm 300$	0 ~ $\pm 600$	0 ~ $\pm 750$	0 ~ $\pm 600$
Turns ratio $N_p/N_S (T)$		1:1000	1:1000	1:2000	1:3000	1:4000
Output current rms $I_S(mA)$		$\pm 50 * I_P / I_{PN}$	$\pm 100 * I_P / I_{PN}$	$\pm 100 * I_P / I_{PN}$	$\pm 100 * I_P / I_{PN}$	$\pm 100 * I_P / I_{PN}$
Secondary coil resistance $R_S (\Omega)$		30	30	45	55	85
Inside resistance $R_M (\Omega)$		[( $V_C - 0.6V$ ) / ( $I_S * 0.001$ )] - $R_S$				
Supply voltage $V_C(V)$		$(\pm 12 \sim \pm 18) \pm 5\%$				
Accuracy $X_G(\%)$		@ $I_{PN}, T=25^\circ\text{C}$		< $\pm 0.5$		
Offset current $I_{OE}(mA)$		@ $I_P=0, T=25^\circ\text{C}$		< $\pm 0.2$		
Temperature variation of IOE $I_{OT}(mA/^\circ\text{C})$		@ $I_P=0, -40 \sim +85^\circ\text{C}$		< $\pm 0.005$		
Linearity error $\epsilon_r(\%FS)$		< 0.1				
$Di/dt$ accurately followed ( $A/\mu s$ )		> 100				
Response time $t_{ra}(\mu s)$		@90% of $I_{PN}$		< 1.0		
Power consumption $I_C(mA)$		15+ $I_S$				



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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)	33
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

## Dimensions(mm):

CHB-BA15D50/100	CHB_BA15D50/100R	Connection
Remarks	General tolerance	
CHB-BA15D50/100R with lead output: Lead color: red, blue, yellow prospectively Lead length: available by customer demand	General tolerance: $< \pm 0.5\text{mm}$ Primary through-hole : $10.5*20.5\pm 0.15$ Connection of Secondary : 2510-04A ( instead of MOLEX5045-04A)	

## 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 is fully filled with.
- The primary conductor should be  $< 100^\circ\text{C}$ .

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



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