

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

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 ~ ± 150	0 ~ ± 300	0 ~ ± 600	0 ~ ± 750	0 ~ ± 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 $X_G(\%)$	@ $I_{PN}, T=25^\circ\text{C}$		< ± 0.5		
Offset current $I_{OE}(mA)$	@ $I_P=0, T=25^\circ\text{C}$		< ± 0.2		
Temperature variation of IOE $I_{OT}(mA/^\circ\text{C})$	@ $I_P=0, -40 \sim +85^\circ\text{C}$		< ± 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		

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

WARNING : Incorrect wiring may cause damage to the sensor.