



DATA SHEET

Hall Effect Current Sensor

PN: CHB_LTR15D50/100

IPN=50~300A

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 $\pm 12\sim 18V$

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 variable frequency electrical appliances
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications



RoHS

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

Parameter \ Ref	CHB50 LTR15D50	CHB100 LTR15D100	CHB200 LTR15D100	CHB300 LTR15D100
Rated input Ip(A)	50	100	200	300
Measuring range Ip(A)	0 ~ ±150	0 ~ ±300	0 ~ ±600	0 ~ ±900
Turns ratio Np/NS (T)	1:1000	1:1000	1:2000	1:3000
Output current rms IS(mA)	±50*IP/IPN	±100*IP/IPN	±100*IP/IPN	±100*IP/IPN
Secondary coil resistance RS (Ω)	15	15	22	38
Inside resistance RM (Ω)	[(VC-0.6V)/IS*0.001]-RS			
Supply voltage VC(V)	(±12 ~ ±18) ±5%			
Accuracy XG(%)	@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 εr(%FS)	< 0.1			
Di/dt accurately followed (A/μs)	> 100			
Response time tra(μs)	@90% of IPN		< 1.0	
Power consumption IC(mA)	15+Is			



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Bandwidth BW(KHZ)	@-3dB,IPN	DC-200
Insulation voltage Vd(KV)	@50/60Hz, 1min,AC	6.0

General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55~ +125
Mass M(g)	70
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):

Top view dimensions: 18.5mm (width), 41mm (length), 18mm (height), 2-M3 (mounting holes).

Front view dimensions: 34mm (width), 34mm (height), 4-D3.3 (mounting holes), 20.2mm (central hole diameter).

Side view dimensions: 45mm (height), 205mm (length).

Connection

The diagram shows a transformer with a primary winding connected to IPN. The secondary winding is connected to a bridge rectifier. The output terminals are: Yellow (IS), Red (Out), Blue (-15V), and Black (NC). A resistor RM is connected between IS and 0V.

General tolerance

General tolerance: $\pm 0.5\text{mm}$
 Primary through-hole : D 20.2±0.15
 Connection of Secondary :
 2510-04Y (instead of MOLEX5045-04Y) ;
 length of high temperature wire:
 205±2.0mm

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 <math>< 100^{\circ}\text{C}</math>.

WARNING : Incorrect wiring may cause damage to the sensor.

