

DATA SHEET

Hall Effect Current Sensor



PN: CHB_LX15D4

IPN=05~50A

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 $\pm 12\sim 15V$
- PCB installation

Advantages

- High accuracy
- Easy installation
- Low temperature drift
- Optimized response time
- High immunity to external interference

Applications

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



RoHS



Electrical data: (Ta=25°C, Vc= ±15VDC,RL=2KΩ,CL=10000pF)

| Parameter \ Ref | CHB05 LX15D4 | CHB10 LX15D4 | CHB15 LX15D4 | CHB20 LX15D4 | CHB30 LX15D4 | CHB50 LX15D4 |
|---|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Rated input Ip(A) | 05 | 10 | 15 | 20 | 30 | 50 |
| Measuring range Ip(A) | 0 ~ ±15 | 0 ~ ±30 | 0 ~ ±45 | 0 ~ ±60 | 0 ~ ±90 | 0 ~ ±150 |
| Size of Input pin *d (MM) | Ø0.6 | Ø0.8 | Ø1.0 | Ø1.4 | Ø1.6 | 2×□2.4×1.6 |
| Turns ratio Np/NS (T) | 4:2000 | 3:3000 | 2:3000 | 1:2000 | 1:3000 | 1:3125 |
| Inside resistance RM (Ω) | 400±0.1% | 400±0.1% | 400±0.1% | 400±0.1% | 400±0.1% | 250±0.1% |
| Output voltage Vo(V) | ±4.0*(IP/IPN) | | | | | |
| Supply voltage VC(V) | (±12 ~ ±15) ±5% | | | | | |
| Accuracy XG(%) | @IPN,T=25°C | | | < ±0.5 | | |
| Offset Voltage VOE(mV) | @IP=0,T=25°C | | | < ±30 | | |
| Temperature variation of VOE VOT(mV/°C) | @IP=0,-40 ~ +85°C | | | < ±0.5 | | |
| Linearity error er(%FS) | | | | < 0.1 | | |
| Di/dt accurately followed (A/μs) | | | | > 50 | | |
| Response time tra(μs) | @90% of IPN | | | < 1.0 | | |
| Power consumption IC(mA) | | | | 15+Is | | |
| Bandwidth BW(KHZ) | @-3dB,IPN | | | DC-100 | | |

| | | |
|---------------------------|-------------------|-----|
| Insulation voltage Vd(KV) | @50/60Hz, 1min,AC | 5.0 |
|---------------------------|-------------------|-----|

General data:

| Parameter | Value |
|------------------------------|------------------------|
| Operating temperature TA(°C) | -40 ~ +85 |
| Storage temperature TS(°C) | -55~ +125 |
| Mass M(g) | 17 |
| Plastic material | PBT G30/G15, UL94- V0; |
| Standards | IEC60950-1:2001 |
| | EN50178:1998 |
| | SJ20790-2000 |

Dimensions(mm):

| Dimensions(mm): | | Connection | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------|--------------------------|------|------|------|------|------|-------------|------|------|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-------------|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>General tolerance</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Size of primary pin & Distance, in mm</p> <table border="1"> <thead> <tr> <th>Type</th> <th>05LX</th> <th>10LX</th> <th>15LX</th> <th>20LX</th> <th>25LX</th> <th>30LX</th> <th>40LX</th> <th>50LX</th> </tr> </thead> <tbody> <tr> <td>*a</td> <td>1.3</td> <td>1.4</td> <td>1.6</td> <td>1.6</td> <td>1.6</td> <td>1.7</td> <td>1.7</td> <td>1.7</td> </tr> <tr> <td>*d</td> <td>0.6</td> <td>0.8</td> <td>1.0</td> <td>1.4</td> <td>1.4</td> <td>1.6</td> <td>1.6</td> <td>2.4* 1.6</td> </tr> </tbody> </table> | | Type | 05LX | 10LX | 15LX | 20LX | 25LX | 30LX | 40LX | 50LX | *a | 1.3 | 1.4 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | *d | 0.6 | 0.8 | 1.0 | 1.4 | 1.4 | 1.6 | 1.6 | 2.4* 1.6 | <p>General tolerance: <math>\pm 0.5\text{mm}</math> Secondary Pin size : <math>0.25 \times 0.5 \pm 0.1\text{mm}</math></p> |
| Type | 05LX | 10LX | 15LX | 20LX | 25LX | 30LX | 40LX | 50LX | | | | | | | | | | | | | | | | | | | | | |
| *a | 1.3 | 1.4 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | | | | | | | | | | | | | | | | | | | | | |
| *d | 0.6 | 0.8 | 1.0 | 1.4 | 1.4 | 1.6 | 1.6 | 2.4* 1.6 | | | | | | | | | | | | | | | | | | | | | |

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.