



# DATA SHEET

## Hall Effect Current Sensor

PN: CHB\_LF15D200/400T

IPN=1000~2000A

### Feature

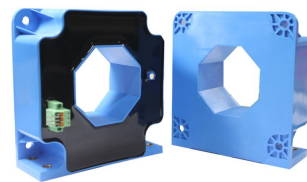
- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC  $\pm 15\sim 24V$

### 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	CHB1000 LF15D200T	CHB1200 LF15D200T	CHB2000 LF15D400T
Rated input I <sub>pn</sub> (A)		1000	1200	2000
Measuring range I <sub>p</sub> (A)		0 ~ ±3000	0 ~ ±2000	0 ~ ±3000
Turns ratio N <sub>p</sub> /N <sub>s</sub> (T)		1:5000	1:6000	1:5000
Output current rms I <sub>S</sub> (mA)		±200*IP/IPN	±200*IP/IPN	±400*IP/IPN
Secondary coil resistance R <sub>S</sub> (Ω)		32	45	32
Inside resistance R <sub>M</sub> (Ω)		[(V <sub>C</sub> -0.4V)/(I <sub>S</sub> *0.001)]-R <sub>S</sub>		
Supply voltage V <sub>C</sub> (V)		( ±15 ~ ±24 ) ±5%		
Accuracy X <sub>G</sub> (%)		@IPN,T=25°C	< ±0.2	
Offset current I <sub>OE</sub> (mA)		@IP=0,T=25°C	< ±0.2	
Temperature variation of IOE I <sub>OT</sub> (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)			20+I <sub>s</sub>	
Bandwidth BW(KHZ)		@-3dB,IPN	DC-150	



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Insulation voltage Vd(KV)	@50/60Hz, 1min,AC	6.0
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## General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55~ +125
Mass M(g)	1100
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

## Dimensions(mm):

<p>Technical drawings of the sensor showing dimensions in millimeters:</p> <ul style="list-style-type: none"> <li>Top view: Overall width 120mm, overall height 68mm, central octagonal hole with side length 60.5mm, and four mounting holes (4-M6).</li> <li>Side view: Total height 128mm, with a 5mm gap between the top and bottom sections.</li> <li>Detail view: Shows a 25mm diameter hole and a 45mm diameter hole.</li> </ul>	<h3>Connection</h3> <p>Circuit diagram showing the connection of the sensor's secondary winding to a transformer and output terminals:</p> <ul style="list-style-type: none"> <li>IPN: Primary input terminal.</li> <li>Yellow M: Secondary winding terminal.</li> <li>Red +: Output terminal for +15V.</li> <li>Blue -: Output terminal for -15V.</li> <li>NC: No connection terminal.</li> <li>IS: Current sense terminal.</li> <li>RM: Resistor terminal.</li> <li>Out: Output terminal for 0V.</li> </ul> <h3>General tolerance</h3> <p>General tolerance: &lt;math&gt;\pm 0.5\text{mm}&lt;/math&gt;            Primary through-hole : <math>D 60.5 \pm 0.3</math>            Connection of Secondary :            KF15EDGM3.5-03P</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 is fully filled with.
- The primary conductor should be <math>< 100^{\circ}\text{C}</math>.

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

