

CHB4000LT24D800**RoHS**
CE

For the electronic measurement of currents: DC, AC, pulsed...,
with galvanic separation between the primary circuit and the secondary circuit.

**Advantages**

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Feature

- Closed loop (compensated) current transducer using the Hall effect.
- Insulating plastic case recognized according to UL 94-VO.

Standard

- | | |
|---------------------|-----------------|
| -EN 50178:1997 | -EN 50155: 2021 |
| -EN 50121-3-2: 2016 | -UL 508: 2010 |

Applications

- | | |
|---|-----------------------------------|
| - AC variable speed drives and servo motor drives | - Propulsion and braking choppers |
| - Static converters for DC motor drives | - Propulsion converters |
| - Battery supplied applications | - Auxiliary converters |
| - Uninterruptible Power Supplies (UPS) | - Battery chargers. |
| - Switched Mode Power Supplies (SMPS) | |
| - Power supplies for welding applications | |
| - Single or three phase inverters | |

Application Domains

- | | |
|--------------|--|
| - Industrial | - Railway (fixed installations and onboard). |
|--------------|--|

Electrical data

(TA=25°C, Vc= ±15VDC)

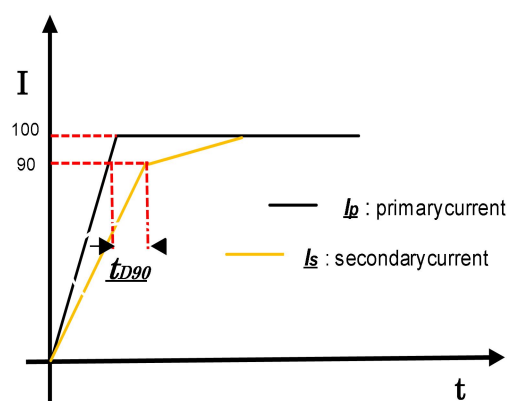
Parameter	Ref	Symbol	CHB4000LT24D800	Unit
Primary nominal RMS current		I_{PN}	4000	A
Primary current, measuring range		I_{PM}	0 ~ ±5900	A
Turns ratio		N_p / N_s	1: 5000	T
Output current rms		I_s	± 800 * I_P / I_{PN}	mA
Resistance of secondary winding		R_s	12	Ω
Measuring resistance		R_M	with ±24V @ ±4000Amax 0 (min) 12(max)	Ω
			@ ±5900Amax 0 (min) 4(max)	
Secondary supply voltage		U_C	(±24) ±5%	V
Accuracy		X	@ $I_P = I_{PN}$, $T = 25^\circ\text{C}$ < ±0.5	%
Offset current		I_O	@ $I_P = 0$, $T = 25^\circ\text{C}$ < ±0.5	mA
Temperature coefficient of I_O		I_{OT}	@ $I_P = 0$, -40 ~ +85°C < ±0.8	mA
Linearity error		ε_L	< ±0.2	%FS
Di/dt accurately followed			> 100	A/μs
Response time tra		t_{D90}	@ 90% of I_{PN} < 1.0	μs
Current consumption		I_C	< 30+ I_s	mA
Frequency bandwidth		BW	@ -3dB DC-100	KHZ
RMS voltage for AC insulation test		U_d	@ 50/60Hz, 1min, 13.5	KV

General data

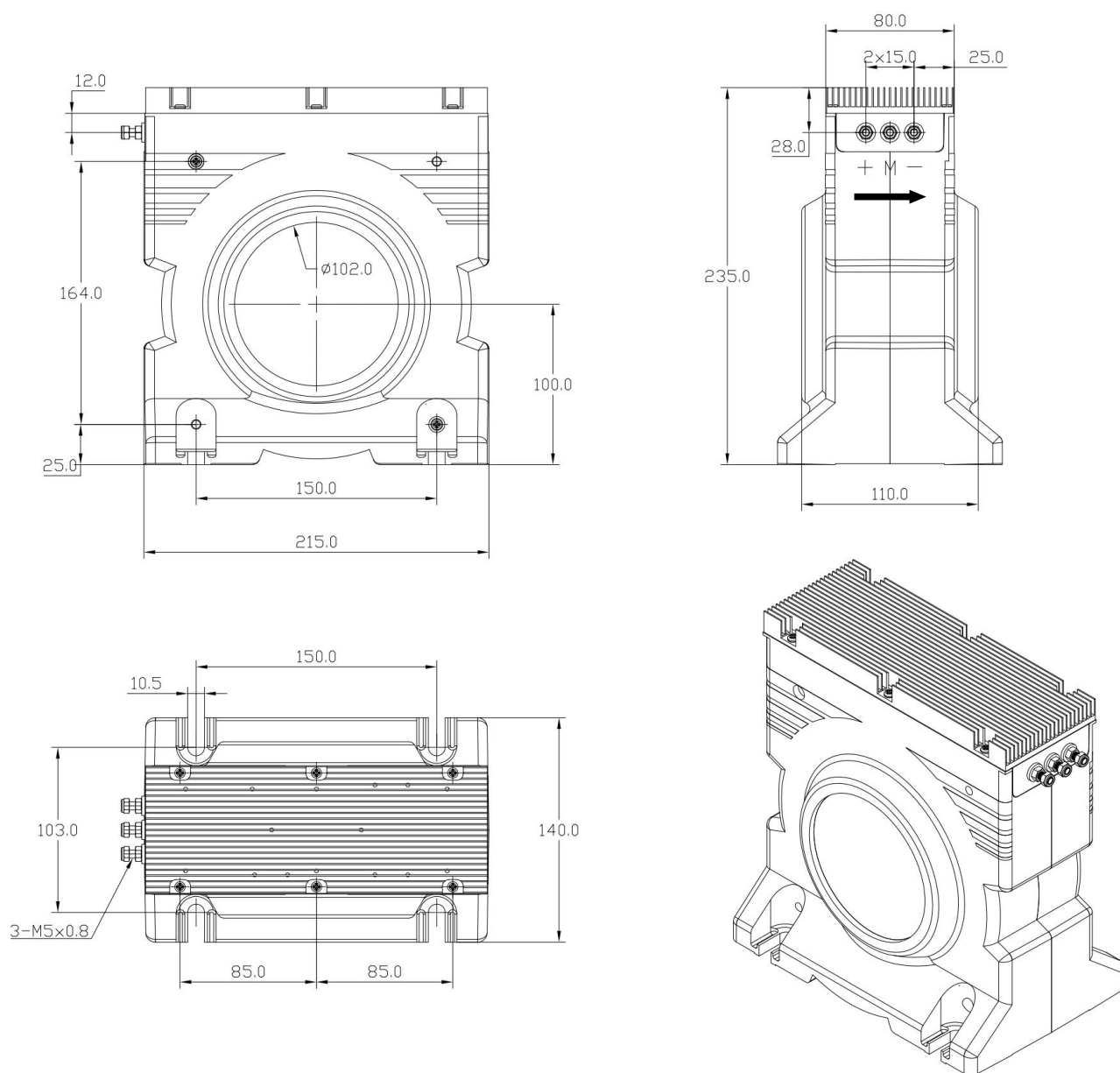
Parameter	Symbol	Value	Unit
Operating temperature	T_A	-40 ~ +85	°C
Storage temperature	T_S	-55~ +100	°C
Mass	M	5500±200	g
Plastic material		PA6+PA66, UL94- V0	
Standards		EN 50178:1997	
		EN 50155: 2021	
		EN 50121-3-2: 2016	

Response time

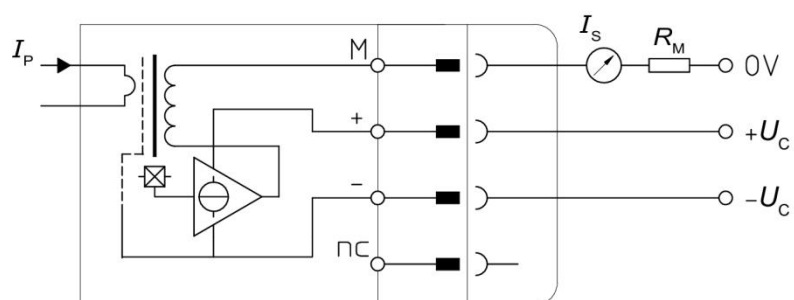
The response time of the sensor refers to the speed of its secondary current establishment time. As shown in the figure on the right, the measurement of the secondary current of the sensor lags behind the primary current establishment time. When the sensor measured current reaches 90% of the nominal current value, the time difference obtained by comparing with the primary current establishment curve is the sensor response time. The faster the sensor response time, the better its performance.



Dimension(mm)



Connection



Mechanical characteristics

General tolerance: $< \pm 1\text{mm}$

Primary through-hole: $\varnothing 102 \pm 1\text{mm}$

Connection of Secondary : M5 threaded studs

Remarks

I_s is positive when I_p flows in the direction of the arrow.

Temperature of the primary conductor should not exceed 100°C .

The dynamic performance is the best when the primary hole is fully filled with.

Custom design is available for the different rated input current and the output voltage.

Installation of the sensor is to be done without primary current or secondary voltage present.

Safety

This transducer must be used in limited-energy secondary circuits according to IEC 61010-1.



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



Caution, risk of electrical shock.

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary "busbar, power supply)."

Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a build-in device, whose conducting parts must be inaccessible after installation.

"A protective housing or additional shield could be used."

Main supply must be able to be disconnected.