



DATA SHEET

Hall Effect Current Sensor

PN: CHB_ECH15D

IPN=5~200A

Feature

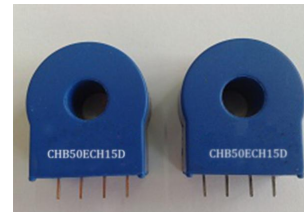
- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC $\pm 12\sim 18V$

Advantages

- High accuracy
- Easy installation
- Low temperature drift
- Optimized response time
- High immunity to external interference
- Very good linearity
- Can be customized

Applications

- Variable speed drives
- Welding machine
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Electrochemical



RoHS

Electrical data $T_a=25^{\circ}C$ $V_c= \pm 15VDC$					
Parameter	Ref	CHB50 ECH15D	CHB75 ECH15D	CHB100 ECH15D	CHB200 ECH15D
Rated input $I_{pn}(A)$		5-50	7.5-75	10-100	20-200
Measuring range $I_p(A)$		150 ($\pm 18V$, 80Ω)	225($\pm 18V$, 68Ω)	300($\pm 18V$, 51Ω)	500($\pm 18V$, 10Ω)
Turns ratio $N_p/N_S (T)$		1:1000	1:1500	1:2000	1:2000
Output current rms $I_S(mA)$		5 $\pm 0.2\%$ FS(5A) 50 $\pm 0.2\%$ FS(50A)	7.5 $\pm 0.2\%$ FS(7.5A) 50 $\pm 0.2\%$ FS(75A)	5 $\pm 0.2\%$ FS(10A) 50 $\pm 0.2\%$ FS(100A)	5 $\pm 0.2\%$ FS(20A) 100 $\pm 0.2\%$ FS(200A)
Secondary coil resistance $R_S (\Omega)$		30	45	50	50
Measure resistor with $\pm 12V RM (\Omega)$	@ $\pm 50A_{max}$	185(max)	@ $\pm 75A_{max}$ 170(max)	@ $\pm 100A_{max}$ 170(max)	@ $\pm 200A_{max}$ 50(max)
	@ $\pm 75A_{max}$	115(max)	@ $\pm 150A_{max}$ 60(max)	@ $\pm 300A_{max}$ 15(max)	@ $\pm 300A_{max}$ 15(max)
Measure resistor with $\pm 15V RM (\Omega)$	@ $\pm 50A_{max}$	250(max)	@ $\pm 50A_{max}$ 245(max)	@ $\pm 100A_{max}$ 200(max)	@ $\pm 200A_{max}$ 80(max)
	@ $\pm 75A_{max}$	150(max)	@ $\pm 150A_{max}$ 55(max)	@ $\pm 300A_{max}$ 35(max)	@ $\pm 500A_{max}$ 1(max)



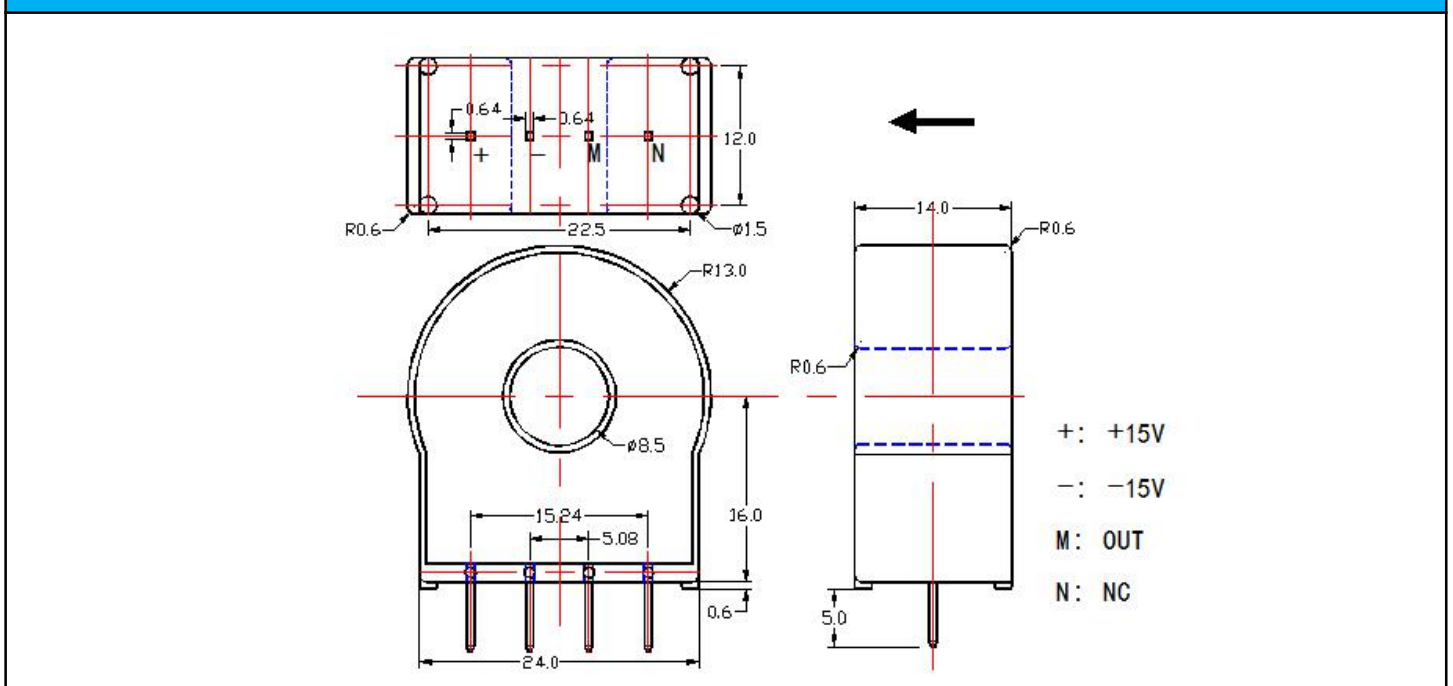
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Supply voltage VC(V)		(±12 ~ ±18) ±5%
Offset current IOE(mA)	@Ip=0	≤±0.2
Offset drift(mA)	@ -40℃ ~ 85℃	≤±0.5
Accuracy XG(%)	@IPN,T=25℃	< ±0.1
Linearity error εr(%FS)	@Ip=0-±Ipn	≤0.1
Di/dt accurately followed A/μs		> 100
Response time tra(μs)	@100A/μS,10%-90%	< 1.0
Power consumption IC(mA)		15+Is
Bandwidth BW(KHZ)	@ -3db	0~200
Insulation voltage Vd(KV)	@ 50HZ,AC,1min	3

General data

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-40 ~ +125
Mass M(g)	15
Plastic material	UL94-V0.
Standards	EN60947-1:2004
	IEC60950-1:2001
	EN50178:1998
	SJ 20790-2000

Dimensions(mm):

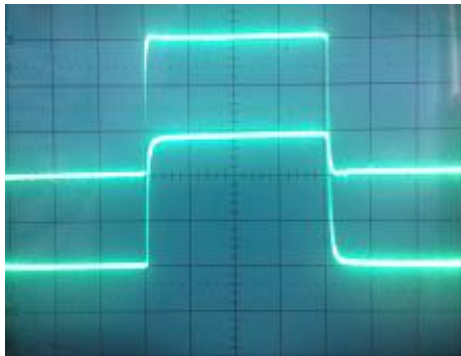


Remarks

1. All dimensions are in mm.
2. General tolerance $\pm 1\text{mm}$.

Characteristics chart:

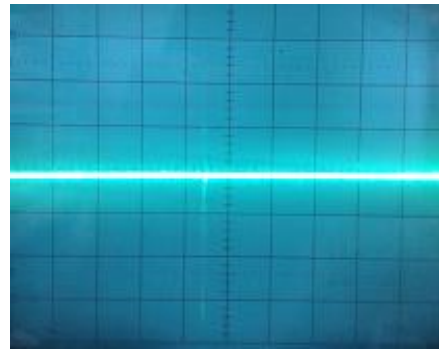
Pulse current signal response characteristic



← input signal

← output signal

Effects of impulse noise



← Output voltage

Directions for use

- When the current goes through the primary pin of a sensor, the voltage will be measured at the output end.
- Is will be in a forward direction when the I_p flows according to the direction of arrowhead.
- 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 $\leq 120^\circ\text{C}$.

WARNING : Incorrect wiring may cause damage to the sensor.

