



DATA SHEET

Hall Effect Current Sensor

PN: CHB_F15D150/200

IPN=200~500A

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 $\pm 15 \sim 24$ V

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 induction cooker
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications



RoHS

Electrical data: ($T_a = 25^\circ\text{C} \pm 5^\circ\text{C}$, $V_c = \pm 15\text{VDC}$)

Ref Parmeter	CHB200 F15D	CHB300 F15D	CHB400 F15D	CHB500 F15D
Rated input $I_{pn}(A)$	200	300	400	500
Measure range $I_p (A)$	600($\pm 24V, 36\Omega$)	900 ($\pm 24V, 25\Omega$)	1200($\pm 24V, 15\Omega$)	1500($\pm 24V, 5\Omega$)
Turns ratio $N_p/N_s (T)$	1: 2000	1: 3000	1: 4000	1: 5000
Rated output $I_{sn} (mA)$	$\pm 100 \pm 0.5\% (@I_p = \pm I_{pn})$			
Measure resister with $\pm 15V (\Omega)$	@ $\pm 200A_{max}$ 0(min) 100(max)	@ $\pm 300A_{max}$ 0(min) 80(max)	@ $\pm 400A_{max}$ 0(min) 82(max)	@ $\pm 500A_{max}$ 0(min) 62(max)
	@ $\pm 400A_{max}$ 0(min) 30(max)	@ $\pm 600A_{max}$ 0(min) 20(max)	@ $\pm 800A_{max}$ 0(min) 10(max)	@ $\pm 1000A_{max}$ 0(min) 2(max)
Measure resister with $\pm 18V (\Omega)$	@ $\pm 200A_{max}$ 0(min) 120(max)	@ $\pm 300A_{max}$ 0(min) 120(max)	@ $\pm 400A_{max}$ 0(min) 100(max)	@ $\pm 500A_{max}$ 0(min) 91(max)
	@ $\pm 400A_{max}$ 0(min) 43(max)	@ $\pm 600A_{max}$ 0(min) 25(max)	@ $\pm 800A_{max}$ 0(min) 25(max)	@ $\pm 1000A_{max}$ 0(min) 10(max)
Coil resister (Ω)	30	40	50	60
Supply voltage $VC(V)$	$(\pm 15 \sim \pm 24) \pm 5\%$			



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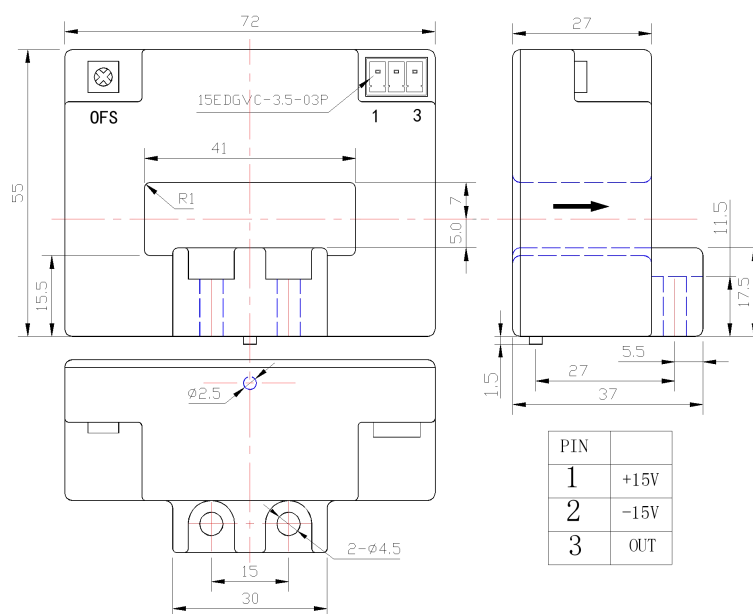
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Accuracy XG(%)	@IPN,T=25°C	< ±0.5
Offset current I _{OE} (mA)	@IP=0,T=25°C	< ±0.2
Temperature variation of I _{OE} I _{OT} (mA/°C)	@IP=0,-40 ~ +85°C	< ±0.5
Linearity error ε _r (%FS)		< 0.1
Di/dt accurately followed (A/μs)		> 100
Response time τ _{ra} (μs)	@90% of IPN	< 1.0
Power consumption I _C (mA)		20+I _p X(N _p /N _s)
Bandwidth BW(KHZ)	@-3dB,IPN	DC-150
Insulation voltage V _d (KV)	@50/60Hz, 1min,AC	6

General data:

Parameter	Value
Operating temperature T _A (°C)	-40 ~ +85
Storage temperature T _S (°C)	-55 ~ +125
Mass M(g)	98
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):



Remarks:

1. All dimensions are in mm.
2. General tolerance ±1mm.

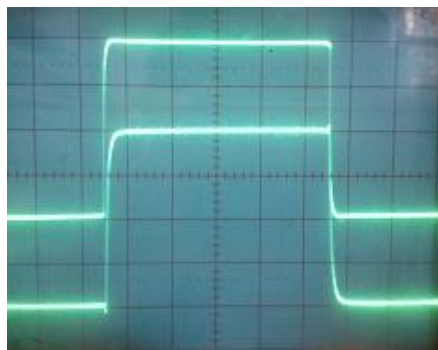


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Characteristics chart

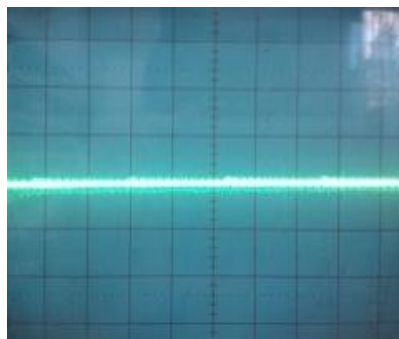
Pulse current signal response characteristic



← Input signal

← Output signal

Effects of impulse noise



← Output voltage

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 $<100^{\circ}\text{C}$.

WARNING : Incorrect wiring may cause damage to the sensor.



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