

# DATA SHEET

## Hall Effect Current Sensor



**PN: CHB\_SY15D4**

**IPN=05~50A**

### Feature

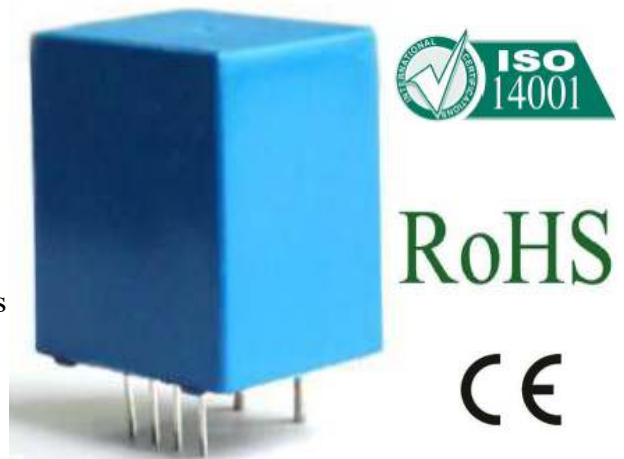
- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC  $\pm 12\sim 15V$
- PCB installation

### Advantages

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

### Applications

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



### Electrical data: ( $T_a=25^{\circ}C$ , $V_c= \pm 15VDC, R_L=2K\Omega, C_L=10000\mu F$ )

Parameter \ Ref	CHB05 SY15D4	CHB10 SY15D4	CHB15 SY15D4	CHB20 SY15D4	CHB30 SY15D4	CHB50 SY15D4
Rated input $I_{pn}(A)$	05	10	15	20	30	50
Measuring range $I_p(A)$	0 ~ $\pm 15$	0 ~ $\pm 30$	0 ~ $\pm 45$	0 ~ $\pm 60$	0 ~ $\pm 90$	0 ~ $\pm 150$
Size of Input pin *d (MM)	$\varnothing 0.8$	$\varnothing 0.8$	$\varnothing 1.0$	$\varnothing 1.4$	$\varnothing 1.6$	$2 \times \square 1.6 \times 1.5$
Turns ratio $N_p/N_S (T)$	4:2000	3:3000	2:3000	1:2000	1:3000	1:3125
Inside resistance $R_M (\Omega)$	$400 \pm 0.1\%$	$400 \pm 0.1\%$	$400 \pm 0.1\%$	$400 \pm 0.1\%$	$400 \pm 0.1\%$	$250 \pm 0.1\%$
Output voltage $V_o(V)$	$\pm 4.0 * (IP/IPN)$					
Supply voltage $V_C(V)$	$(\pm 12 \sim \pm 15) \pm 5\%$					
Accuracy $X_G(\%)$	@IPN, $T=25^{\circ}C$		$< \pm 0.5$			
Offset Voltage $V_{OE}(mV)$	@IP=0, $T=25^{\circ}C$		$< \pm 30$			
Temperature variation of VOE $V_{OT}(mV/^{\circ}C)$	@IP=0, $-40 \sim +85^{\circ}C$		$< \pm 0.5$			
Linearity error $\epsilon_r(\%FS)$	$< 0.1$					
$Di/dt (A/\mu s)$	$> 50$					
Response time $t_{ra}(\mu s)$	@90% of IPN		$< 1.0$			
Power consumption $I_C(mA)$	$15+I_s$					
Bandwidth $BW(KHZ)$	@-3dB, IPN		DC-100			
Insulation voltage $V_d(KV)$	@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)	12
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

## Dimensions(mm):

I <sub>pn</sub> <50A	I <sub>pn</sub> =50A	Connection
		General tolerance
		General tolerance:< ±0.5mm Secondary Pin size :0.25*0.5±0.1mm

## 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°C.

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