



DATA SHEET

Hall Effect Current Sensor

PN: CHB_HXS5S

IPN=10~50A

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+5V±5%

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 Ta=25°C Vc= ±15VDC | | | | |
|------------------------------------|-------------|-------------|--------------|--------------|
| Parmeter \ Ref | CHB25 HXS5S | CHB50 HXS5S | CHB100 HXS5S | CHB200 HXS5S |
| Rated input Ip(A) | 10 | 20 | 30 | 50 |
| Measuring range Ip(A) | 30 | 60 | 90 | 150 |
| Turns ratio Np/NS (T) | 1600±2 | 1600±2 | 1200±1 | 1000±1 |
| Rated output voltage (V) | 0.625±0.5% | 0.625±0.5% | 0.625±0.5% | 0.625±0.5% |
| Internal measuring resister (Ω) | 100±0.1% | 50±0.1% | 25±0.1% | 12.5±0.1% |
| Supply voltage VC(V) | +5±5% | | | |
| Power consumption (mA) | 20+Ip/Ns | | | |
| Reference voltage(V) | +2.5±0.4% | | | |
| Zero voltage(V) | @ Ip=0 | 2.5±0.4% | | |
| Offset voltage drift(mV/C) | @ -40~+85°C | ≤±0.5 | | |
| Accuracy XG(%) | @IPN,T=25°C | < ±0.1 | | |
| Linearity(%FS) | @ Ip=0-±Ipn | ≤0.1 | | |



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| | | |
|--|---------------------------------------|--------|
| Magnetic offset voltage(%I _p n) | @I _p =3XI _p n-0 | ≤±0.5 |
| di/dt accurately followed(A/μS) | | > 50 |
| Response time(nS) | @100A/μS,10%-90% | ≤500 |
| Bandwidth(KHz) | @ -1db | DC~100 |
| Galvanic isolation(KV) | @ 50/60HZ,1min | 2.5 |

General data

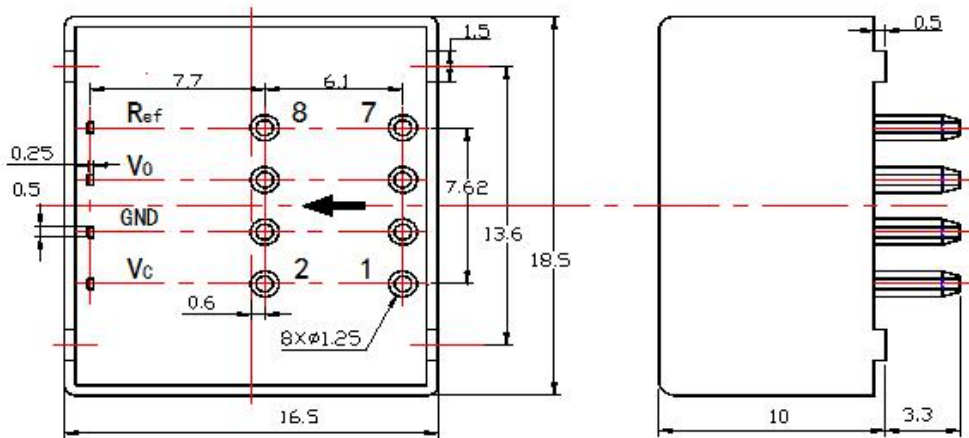
| Parameter | Value |
|------------------------------|------------------------------------|
| Operating temperature TA(°C) | -40 ~ +85 |
| Storage temperature TS(°C) | -40~ +125 |
| Mass M(g) | 7 |
| Plastic material | UL94-V0. |
| Standards | EN60947-1:2004 |
| | EC60950-1:2001 Test Voltage: 1000V |
| | EN50178:1998 Test Voltage: 1000V |
| | SJ 20790-2000 |

Pin connections

| item | Turns | Primary rated | Rated putout Voltage | Primary impedance | Primary Inductance | Connect point |
|--------------|-------|-----------------------|----------------------|-------------------|--------------------|---------------|
| Single Phase | 1 | ±10(±20, ±30, ±50) | 2.5±0.625±0.5% | 0.05 | 0.025 | |
| | 2 | ±5(±10, ±15, ±25) | 2.5±0.625±0.5% | 0.20 | 0.1 | |
| | 3 | ±2.5(±5, ±7.5, ±12.5) | 2.5±0.625±0.5% | 1.00 | 0.4 | |

Dimensions(mm):



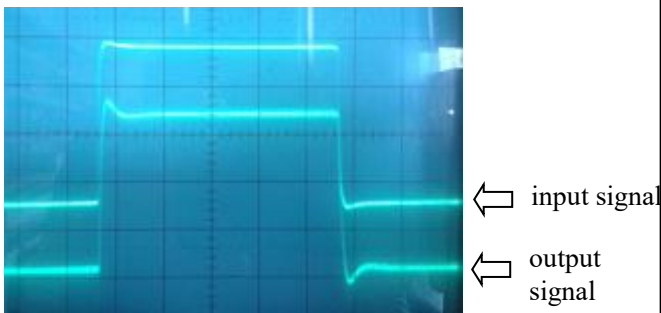


Remarks

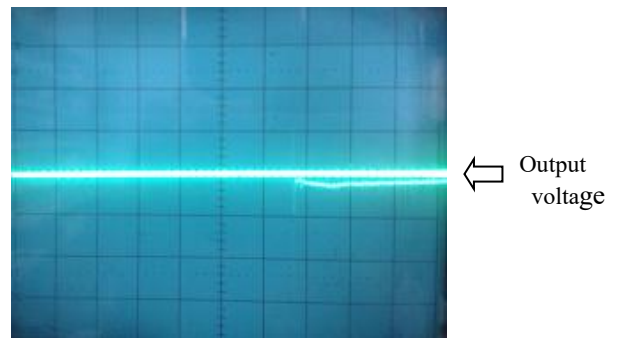
1. All dimensions are in mm.
2. General tolerance $\pm 1\text{mm}$.

Characteristics chart :

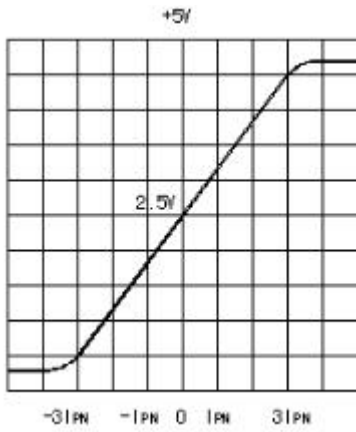
Pulse current signal response characteristic



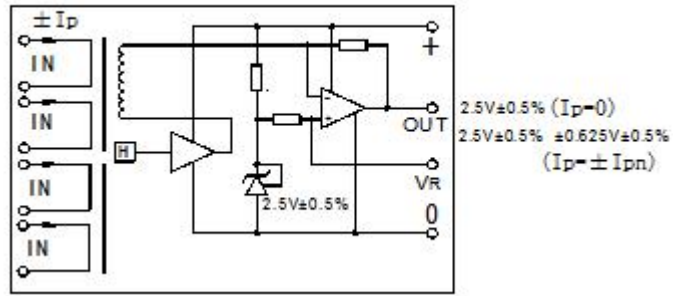
Effects of impulse noise



Input current-output voltage characteristic



Operation Principle



Directions for use

- 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

WARNING : Incorrect wiring may cause damage to the sensor.

