



# DATA SHEET

## Hall Effect Current Sensor

PN: CHK\_KB15D5

IPN=1000-10000A

### Feature

- Open- loop
- Capable measurement of currents: DC, AC,pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC  $\pm 12\sim 15V$

### Advantages

- High accuracy
- Easy installation
- No insertion losses
- Low power consumption
- Wide current measuring range
- High immunity to external interference
- Very good linearity
- Can be customized



### Applications

- Inverter applications
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Frequency drive control home appliances



RoHS



### Electrical data: ( $T_a=25^\circ C$ , $V_c=\pm 15VDC$ , $R_L=10K\Omega$ )

| Parameter   | Ref | CHK1000<br>KB15D5             | CHK3000<br>KB15D5 | CHK4000<br>KB15D5 | CHK5000<br>KB15D5 | CHK8000<br>KB15D5 | CHK10000<br>KB15D5 |
|---|-----|-------------------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Rated input $I_{pn}(A)$                           |     | 1000                          | 3000              | 4000              | 5000              | 8000              | 10000              |
| Measuring range $I_p(A)$                          |     | 0 $\sim\pm 2000$              | 0 $\sim\pm 6000$  | 0 $\sim\pm 8000$  | 0 $\sim\pm 10000$ | 0 $\sim\pm 12000$ | 0 $\sim\pm 12000$  |
| Output voltage $V_o(V)$                           |     | $\pm 5.0*(IP/IPN)$            |                   |                   |                   |                   |                    |
| Load resistance $R_L(K\Omega)$                    |     | $>10$                         |                   |                   |                   |                   |                    |
| Supply voltage $V_C(V)$                           |     | $(\pm 12\sim\pm 15) \pm 5\%$  |                   |                   |                   |                   |                    |
| Accuracy $XG(\%)$                                 |     | @IPN, $T=25^\circ C$          | $< \pm 1.0$       |                   |                   |                   |                    |
| Offset voltage $VOE(mV)$                          |     | @IP=0, $T=25^\circ C$         | $< \pm 25$        |                   |                   |                   |                    |
| Temperature variation of $VOE$ $VOT(mV/^\circ C)$ |     | @IP=0, $-40 \sim +85^\circ C$ | $< \pm 1.0$       |                   |                   |                   |                    |
| Hysteresis offset voltage $VOH(mV)$               |     | @IP=0, after 1*IPN            | $< \pm 25$        |                   |                   |                   |                    |
| Linearity error $\epsilon_r(\%FS)$                |     | $< 1.0$                       |                   |                   |                   |                   |                    |
| Di/dt accurately followed $(A/\mu s)$             |     | $> 100$                       |                   |                   |                   |                   |                    |
| Response time $\tau_{ra}(\mu s)$                  |     | @90% of IPN                   | $< 7.0$           |                   |                   |                   |                    |
| Power consumption $I_C(mA)$                       |     | 15                            |                   |                   |                   |                   |                    |



# Cheemi Technology Co., Ltd

|                           |                   |       |
|---------------------------|-------------------|-------|
| Bandwidth Bw(KHZ)         | @-3dB, IPN        | DC-20 |
| Insulation voltage Vd(KV) | @50/60Hz, 1min,AC | 6.0   |

## General data:

| Parameter                    | Value                  |
|------------------------------|------------------------|
| Operating temperature TA(°C) | -40 ~ +85              |
| Storage temperature TS(°C)   | -55 ~ +125             |
| Mass M(g)                    | 1220                   |
| Plastic material             | PBT G30/G15, UL94- V0; |
| Standards                    | IEC60950-1:2001        |
|                              | EN50178:1998           |
|                              | SJ20790-2000           |

## Dimensions(mm):

Connection

General tolerance

General tolerance: <math>\pm 0.5\text{mm}</math>  
 Primary through-hole : <math>36 \times 140 \pm 0.3</math>  
 Connection of Secondary :  
 DG303-5.0-04P

## 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 <math>< 100^\circ\text{C}</math>.

WARNING : Incorrect wiring may cause damage to the sensor.

