



DATA SHEET

Hall Effect Current Sensor

PN: CHK_EKB5S2

IPN=100-2000A

Feature

- Open- loop
- Capable measurement of currents: DC, AC, pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC +5.0V

Advantages

- Easy installation
- No insertion losses
- Low power consumption
- Wide current measuring range
- High immunity to external interference
- 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



Electrical data: (Ta=25°C, Vc=+5.0VDC, RL=2KΩ)

Parameter	Ref	CHK100 EKB5S2	CHK200 EKB5S2	CHK400 EKB5S2	CHK800 EKB5S2	CHK1000 EKB5S2	CHK1500 EKB5S2	CHK2000 EKB5S2
Rated input I _{pn} (A)		100	200	400	800	1000	1500	2000
Measuring range I _p (A)		0~±100	0~±200	0~±400	0~±800	0~±1000	0~±1500	0~±2000
Output voltage V _o (V)		2.500±2.0*(IP/IPN)						
Output voltage V _o (V)	@IP=0,T=25°C	2.500						
Load resistance R _L (KΩ)		>2.0						
Supply voltage V _C (V)		+5.0 ±5%						
Accuracy X _G (%)	@IPN,T=25°C	< ±1.0						
Offset voltage V _{OE} (mV)	@IP=0,T=25°C	< ±25						
Temperature variation of V _{OE} V _{OT} (mV/°C)	@IP=0,-40 ~ +85°C	< ±1.0						
Hysteresis offset voltage V _{OH} (mV)	@IP=0,after 1*IPN	< ±20						
Linearity error ε _r (%FS)		< 1.0						
Di/dt (A/μs)		> 100						
Response time τ _{ra} (μs)	@90% of IPN	< 5.0						
Power consumption I _C (mA)		15						
Bandwidth B _w (KHZ)	@-3dB, IPN	DC-20						



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Insulation voltage Vd(KV)	@50/60Hz, 1min,AC	3.0
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General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55~ +125
Mass M(g)	120
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):

CHK_EKB5S2M	CHK_EKB5S2S	Connection
		<p>General tolerance</p> <p>General tolerance: <math>\pm 0.5\text{mm}</math> Primary through-hole : $D40.5 \pm 0.3$ Connection of secondary : CHK_EKB5S2M: 2510-04A (Instead of Molex 5045-04A) CHK_EKB5S2S: 15EDGK3.81-04P</p>

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

WARNING : Incorrect wiring may cause damage to the sensor.



Cheemi Technology Co., Ltd

Tel: 025-85996365 E-mail: info@cheemi-tech.com www.cheemi-tech.com
 Add: 22 Building, XianlongWan, South Xianyin Road, Qixia District, Nanjing, China.