

HNC025A Series Hall Current Sensor

Introduction

HNC025A Series Hall current transducer is the new generation product based on Hall effect. It is able to measure DC, AC, pulse and other currents with irregular waves under the condition of electrical isolation.



△ Electrical Parameters (Ta=25°C)

Type	HNC025A	
Parameters	Symbols	
Nominal measuring current	I_{PN}	$\pm 25A$
Linear range	I_P	$0\sim\pm 36A$
Turns ratio	K_N	1-2-3-4-5:1000
Primary coil resistance	R_c	$<1.25m\Omega/\text{匝}$
Secondary coil resistance	R_i	40Ω
Nominal output current	I_{SN}	$\pm 25\text{mA}\pm 0.25\text{mA}$
Zero offset current	I_o	$\pm 0.1\text{mA}$ Type $\pm 0.25\text{mA}$ Max
Linear error	ξ_L	$<0.2\%$
Supply voltage	V_c	$\pm 15V\pm 5\%$
Response time	T_r	$\leq 1\mu S$
Temperature drift of bridge offset	I_{OT}	$\pm 0.25\text{mA}$ Type $\pm 0.6\text{mA}$ Max
Recommended load resistance	R_M	$100\Omega\sim 300\Omega$
Isolation voltage	V_d	2.5KV/50 or 60Hz/1min
Frequency bandwidth	f	DC-100KHZ (-3dB)
Operating temperature	T_a	$-25^\circ C\sim +85^\circ C$
Storage temperature	T_s	$-40^\circ C\sim +90^\circ C$

Features:

- ◆ Use close-loop current transducer based on Hall effect
- ◆ Adopt UL94V-0-recognized insulated casing
- ◆ High insulation between primary side and secondary side
- ◆ Multi-current range
- ◆ High over-load capacity
- ◆ Small size and space saving
- ◆ Full-sealed
- ◆ High reliability

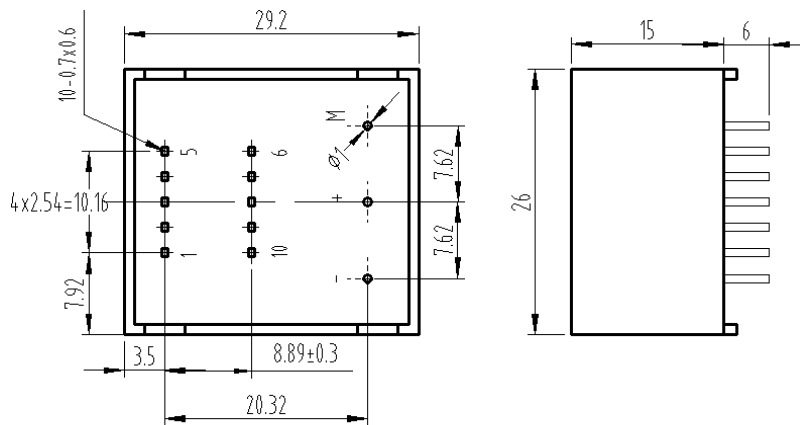
Applications:

- ◆ AC variable-frequency speed control system and servo motor
- ◆ Uninterruptible power supply (UPS)
- ◆ Switched-mode power supply
- ◆ Battery supply
- ◆ Power supply for electric welding machine

Instructions for Use:

- ◆ Connect the wire of transducer in correct way as required.
- ◆ Inputting measured current from input end of transducer, the in-phase current signal can be obtained from output end by sampling.

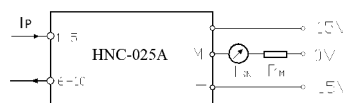
△ Dimensions: (mm)



Bottom view

Left view

number of primary turns	primary current (A)	output current (mA)	turns ratio	PCB connections
1	25	25	1:1000	IN ○ ○ ○ ○ ○ OUT
2	12	24	2:1000	IN ○ ○ ○ ○ ○ OUT
3	8	24	3:1000	IN ○ ○ ○ ○ ○ OUT
4	6	24	4:1000	IN ○ ○ ○ ○ ○ OUT
5	5	25	5:1000	IN ○ ○ ○ ○ ○ OUT



Connection and adjustment:

- ◆ +: +Vc (+15V)
- ◆ -: -Vc (-15V)
- ◆ M: Output
- ◆ 1~5: primary In
- ◆ 6~10: primary Out