



HBC500LTB Hall-effect Current Sensor Series

HBC500LTB series is a new generation of current sensor based on the principle of Hall-effect. It can be used for detecting DC、 pulse and various irregular waveform current under electrical isolation between output and input.

Electrical characteristics

Type	HBC300LTA	HBC500LTB	
I_{PN} Primary nominal input current	300	500	A
I_P Measuring primary current range	600	1000	A
I_{SN} Nominal output current	100±0.5%	100±0.5%	mA
K_N Turns ratio	1: 3000	1: 5000	
R_M Measurement resistance ($V_C=±15V/I_{PN}$)	110(max)	100(max)	Ω
	($V_C=±18V/I_{PN}$)	130(max)	120(max)
V_C Supply voltage	±15~ ±24 (±5%)		V
I_C Current loss	$V_C=±15V$	20+ I_S	mA
V_d Insulation voltage	5KV AC/50Hz/1min		

Dynamic characteristics

ϵ_L Linearity		≤ 0.2	%FS
I_0 Offset current	$T_A=25^\circ C$ $V_C=±15V$	±0.2	mA
I_{OM} Residual current	$I_P \rightarrow 0$	±0.1	mA
I_{OT} Offset current temperature drift	$I_P=0$ $T_A=-10\sim +70^\circ C$	±0.20~±0.64	mA/°C
T_R Response time		≤1	μs
f Band width (-3dB)		DC~100	KHz

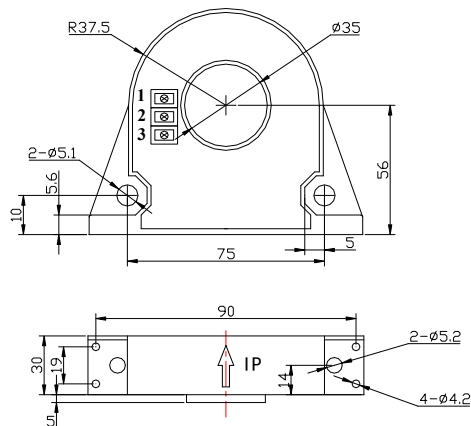
Generic characteristics

T_A Operation temperature		-40~ +85	°C
T_S Storage temperature		-25~ +125	°C
R_S Secondary internal resistance $T_A=25^\circ C$		31	Ω
	Standard	45	

Advantages

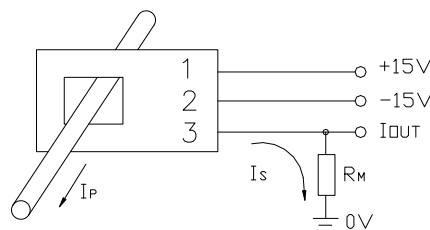
- ◆ excellent precision ,good linearity
- ◆ better anti-jamming capability
- ◆ low temperature drift, quick response time
- ◆ broad frequency band width
- ◆ good over-current capability

package outline (mm)



Typical applications

- ◆ alternating current variable-speed generator tracking
 - ◆ welding equipment source
 - ◆ DC generator static electricity commutation
 - ◆ communication source 、 battery source
 - ◆ UPS, switching power supplies
- circuit connection diagram



Pin: 1: +15V 2: -15V 3: Iout