TBC-SYH52 Series High Precision Closed Loop Mode Hall Effect Current Sensor

TBC-SYH52 series high-precision current sensor is a closed loop device based on the measuring principle of the hall effect, with a galvanic isolation between primary and secondary circuit. It has strong anti-jamming ability and it provides accurate electronic measurement of DC, AC or pulsed currents.

Electrical data (Ta=25℃±5℃, RL=10KΩ, CL=10000PF)

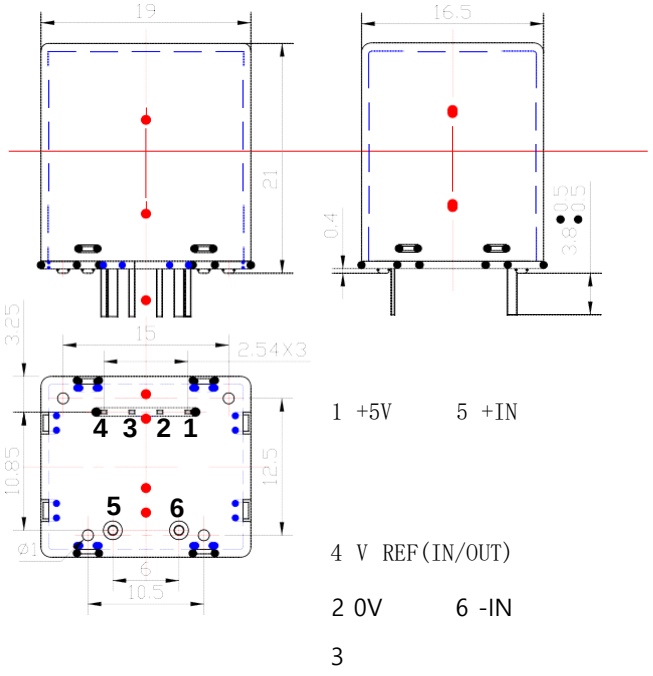
Parameter \ Type	TBC-03SYH52	TBC-05SYH52	TBC-10SYH52	TBC-15SYH52	TBC-20SYH52	TBC-25SYH52	TBC-30SYH52	TBC-50SYH52	Unit
Rated input (Ipn)	±3	±5	±10	±15	±20	±25	±30	±50	A
Measuring range (Ip)	±3.3	±5.5	±11	±16.5	±22	±27.5	±33	±55	A
Size of input pins	ø 0.6	ø 0.8	ø 1.0	ø 1.0	ø 1.4	ø 1.4	ø 1.6	ø1.6 × 1.5×2	mm
Turns ratio (Np/Ns)	5 : 1500	3 : 1500	2 : 1000	2 : 1500	1 : 1000	1 : 1250	1 : 1500	1 : 1000	T
Inside resistance	50 ±0.1%	50 ±0.1%	25 ±0.1%	25 ±0.1%	25 ±0.1%	25 ±0.1%	25 ±0.1%	10 ±0.1%	Ω
Rated output	@ Ip=±Ipn	±2.0±0.5%							V
Supply voltage	+5±5%								V
Power consumption	15+IpX (Np/Ns)								mA
Zero voltage	2.5±0.4%								V
Offset drift	@ -40 ~ +105℃	≤±0.2							mV/℃
Output drift	@ -40 ~ +105℃	≤±0.2							mV/℃
Linearity	@ Ip=0-±Ipn	≤0.1							%FS
Response time	@ Ip=Ipn, 50 A/μS ,10%-90%	< 0.5							μS
Band-width	@-3dB	DC-200							KHz
Galvanic isolation	@ 50Hz, AC,1min	5.0							KV

Applications

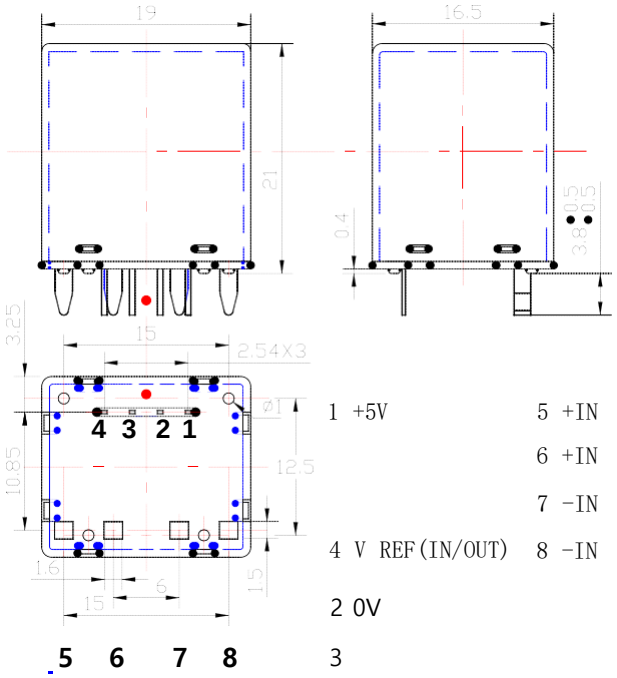
- Switched Mode Power Supplies (SMPS)
- AC variable speed drives
- Uninterruptible Power Supplies (UPS)
- Electrical Appliance
- Battery supplied applications
- DC Motor Drive

Mechanical dimension (for reference only)

TBC03-30SYH52



TBC50SYH52



Remarks :

1. All dimensions are in mm.
2. Secondary pin size and tolerance: width:0.5±0.1mm; thickness:0.25±0.05mm
3. General tolerance ±1mm

Directions for use

1. When the current will be measured goes through the primary pin of a sensor, the voltage will be measured at the output end. (Note: The false wiring may result in the damage of the sensor).

2. Custom design in the different rated input current and the output voltage are available.

Standards

UL94-V0.

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

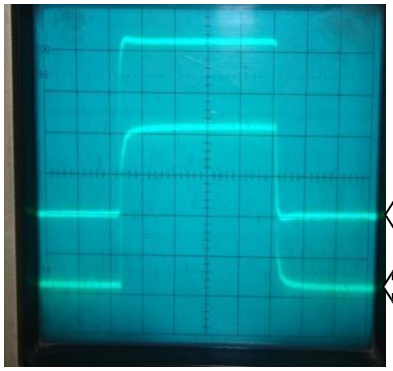
SJ 20790-2000

General data

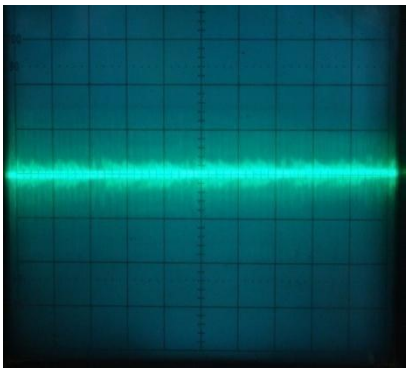
	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	12	g	M

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise



Input current-Output Voltage characteristic

Primary Current (Ip)--Output