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

TBC-TBH Series 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, the size of primary doesn't affect test precision, no matter the location of primary in the hole of current sensor, It can really measure resolution 1000:1 and it uses for precision measurement of DC, AC and pulse current.

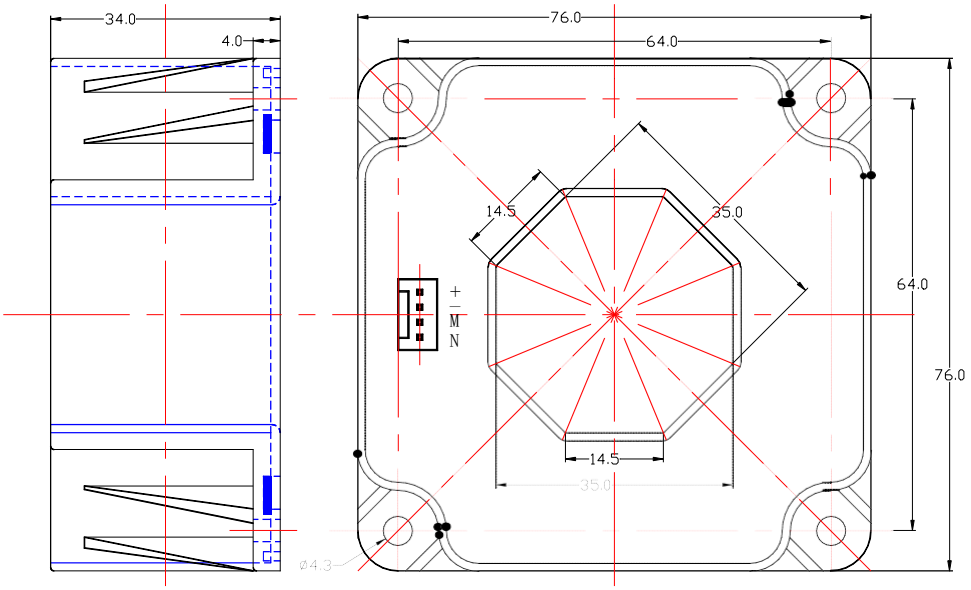
Electrical data (Ta=25℃±5℃)

Parameter \ Type	TBC300TBH	TBC400TBH	TBC500TBH	Unit
Rated input (Ipn)	±300	±400	±500	A
Measure range (Ip)	±900(±24V,33Ω)	±1200(±24V,20Ω)	±1500(±24V,1.0Ω)	A
Measure resister with ±15V	@±300Amax 100(max)	@±400Amax 75(max)	@±500Amax 50(max)	Ω
	@±600Amax 27(max)	@±800Amax 15(max)	@±1000Amax 10(max)	Ω
Measure resister with ±18V	@±300Amax 150(max)	@±400Amax 110(max)	@±500Amax 100(max)	Ω
	@±600Amax 43(max)	@±800Amax 25(max)	@±1000Amax 7.5(max)	Ω
Turns ratio (Np/Ns)	1:3000	1:4000	1:5000	T
Secondary coil resister	40	55	75	Ω
Rated output (Isn)	@Ip=±Ipn	±100±0.2%FS		mA
Supply voltage	±15 ~ ±24			V
Power consumption	20+IpX (Np/Ns)			mA
Zero offset current	@Ip=0	≤±0.2		mA
Offset current drift	≤±0.5（Typ），≤±0.75（Max），			mA
Response time	@100A/μS,10%-	< 1		μs
Linearity	@Ip=0-±Ipn	≤0.1		%FS
Galvanic isolation	@ 50Hz, AC,1min	6		KV
di/dt accurately followed	> 100			A/μs
Band-width	@-3dB	DC-200		KHz

Applications

- Variable speed drives
- Welding machine
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Electrochemical

Mechanical dimension (for reference only)



Secondary terminals

+: supply voltage +15V---+24V

-: supply voltage -15V----24V

M: output

N: NC

CONNECT OR: MOLEX 5012-04

Remarks :

1. All dimensions are in mm.
2. General tolerance ±1mm

Directions for use

1. Is will be in a forward direction when the Ip flows according to the direction of the arrowhead.
2. The primary conductor should be≤120℃.
3. The dynamic performance (di/dt and the response time) is the best when the primary hole is fully filled with the bus bar.

Standards

UL94-V0

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

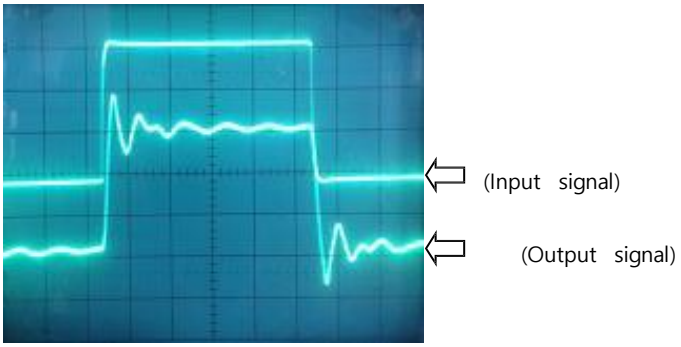
SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	329	g	M

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise