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

TBC-XN/XNP 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=2KΩ, CL=10000PF)

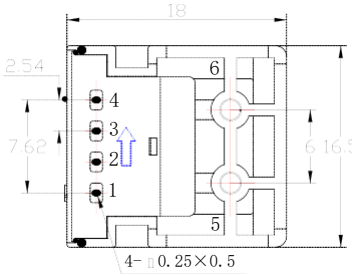
Parameter \ Type	TBC50XNP	TBC60XNP	TBC100XNP	Unit
Rated input (Ipn)	50	60	100	A
Measuring range (Ip)	±150	±150	±150	A
Size of input pins	ø6.0 ×1.2	ø6.0 ×1.2	ø6.0 ×1.2	mm
Turns ratio (Np/Ns)	1 : 2000	1 : 2000	1 : 2000	T
Inside resistance	20±0.1%	18±0.1%	10±0.1%	Ω
Rated output	@ Ip=±Ipn	±4±0.5%		V
Supply voltage	±15±5%			V
Power consumption	15+IpX(Np/Ns)			mA
Zero voltage	≤±30			mV
Offset drift	≤±0.5			mV/℃
Output drift	≤±0.5			mV/℃
Linearity	@ Ip=0-±Ipn	≤0.1		%FS
Response time	@ Ip=Ipn, 50 A/μS ,10%-	< 1.0		μS
Band - wi dth	@-3dB	DC-200		KHz
Galvanic isolation	@ 50Hz,AC,1min	3.0		KV

Applications

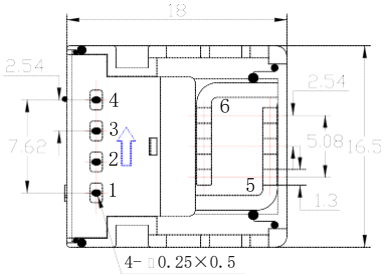
* Switched Mode Power Supplies (SMPS)
* AC variable speed drives
* Uninterruptible Power Supplies (UPS)
* Electrical appliances
* Battery supplied applications
* DC motor drives

Mechanical dimension (for reference only)

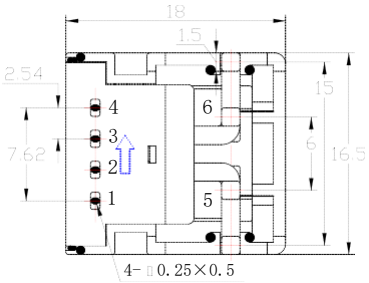
TBC 03-30XN

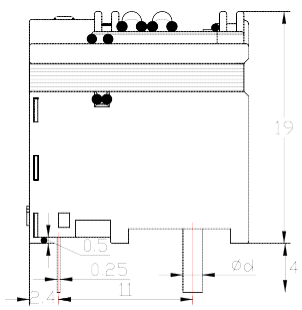


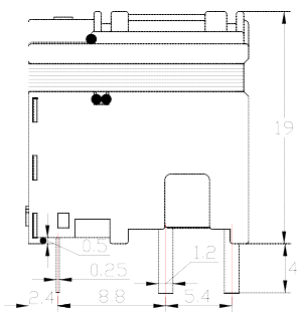
TBC 50-100XN

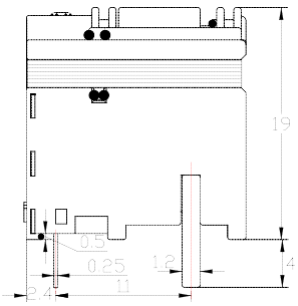


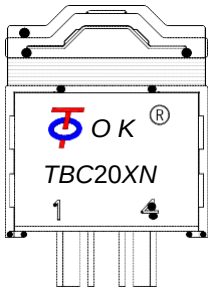
TBC 50-100XNP











Terminal Pin

Identification 1 ..... -15V
2 ..... 0V
3 ..... +15V
4 ..... Output
5 ..... +IN
6 ..... -IN

		∅d
XN	3A / 5A	∅0.8mm
	10A / 15A	∅1.4mm
	20A / 25A / 30A	1.6mm
	50A / 60A / 100A	∅ 6.38×1.2
XNP	50A / 60A / 100A	□ 6.0×1.2

□

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

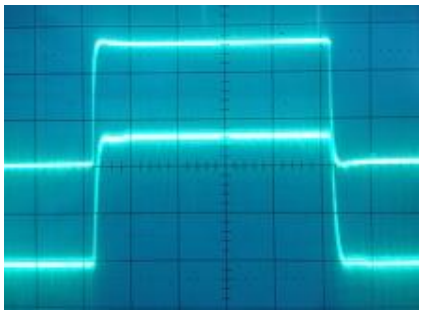
SJ 20790-2000

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



(Input signal)

(Output signal)

Effects of impulse noise

(Output voltage)

Input current-Output Voltage characteristic