TBC-PHS3.3T Series Two-closed Loop Mode Hall Effect Current Sensor

TBC-PHS3.3T series current sensor is a two closed loop device based on the measuring principle of the hall effect, with a galvanic isolation between primary and secondary circuit. It provides accurate electronic measurement of DC, AC or pulsed currents.

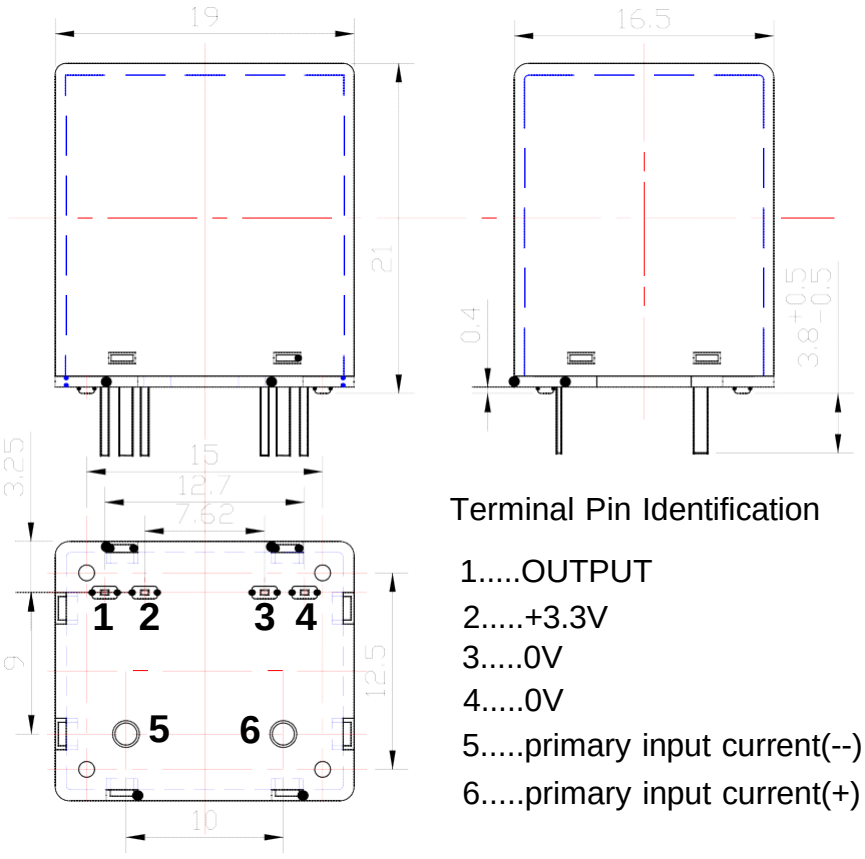
Electrical data ((Ta=25℃±5℃, RL=2KΩ, CL=10000PF)

Type / Parameter	TBC05PHS3.3T	TBC10PHS3.3T	TBC15PHS3.3T	TBC25PHS3.3T	TBC30PHS3.3T	Unit
Rated input (Ipn)	±5	±10	±15	±25	±30	A
Measuring range (Ip)	±5.5	±11	±16.5	±27.5	±33	A
Turns ratio (Np/Ns)	3:1200	2:960	2:960	1:1000	1:960	T
Inside resistance	25±0.1%	15±0.1%	10±0.1%	12.5±0.1%	10±0.1%	Ω
Rated output	@ Ip=±Ipn ±1.25±0.5%					V
Size of input pins	ø 0.8	ø 1.0	ø 1.0	ø 1.4	ø 1.6	mm
Supply voltage	+3.3±5%					V
Power consumption	≤15+IpX (Np/Ns)					mA
Zero voltage	@ Ip=0 1.65±0.5%					V
Offset drift	@ -40 ~ +105℃ ≤±0.1					mV/℃
output drift	@ -40 ~ +105℃ ≤±0.1					mV/℃
Linearity	@ Ip=0-±Ipn ≤0.1					%FS
Total precision	≤±0.7					%
di/dt accurately followed	> 50					A/μS
Response time	@ Ip=Ipn, 50 A/μS , 90% < 500					nS
Band-width	@-3dB DC-200					KHz
Galvanic isolation	@ 50Hz , AC , 1min 3.0					KV

Applications

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

Mechanical dimension (for reference only)



Terminal Pin Identification

1.....OUTPUT
2.....+3.3V
3.....0V
4.....0V
5.....primary input current(--)
6.....primary input current(+)

Remarks :

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

Directions for use

1. When the current will be measured goes through 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 available.

Standards

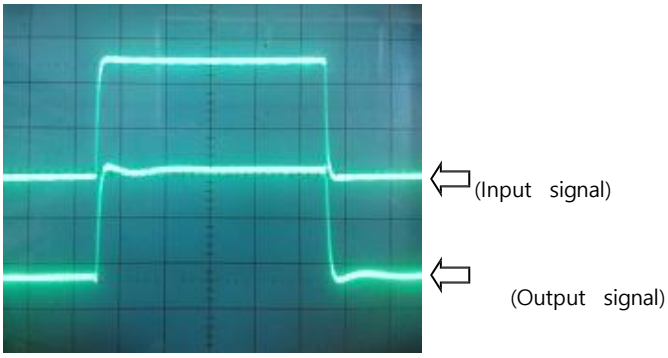
- UL94-V0
- EN60947-1:2004
- IEC60950-1:2001
- EN50178:1998
- SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +105	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