

# TBC-PS5 Series Two-closed Loop Hall Effect Current Sensor



TBC-PS5 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 has strong anti-jamming ability and provides accurate electronic measurement of DC, AC or pulsed currents.

## Electrical data (Ta=25°C±5°C)

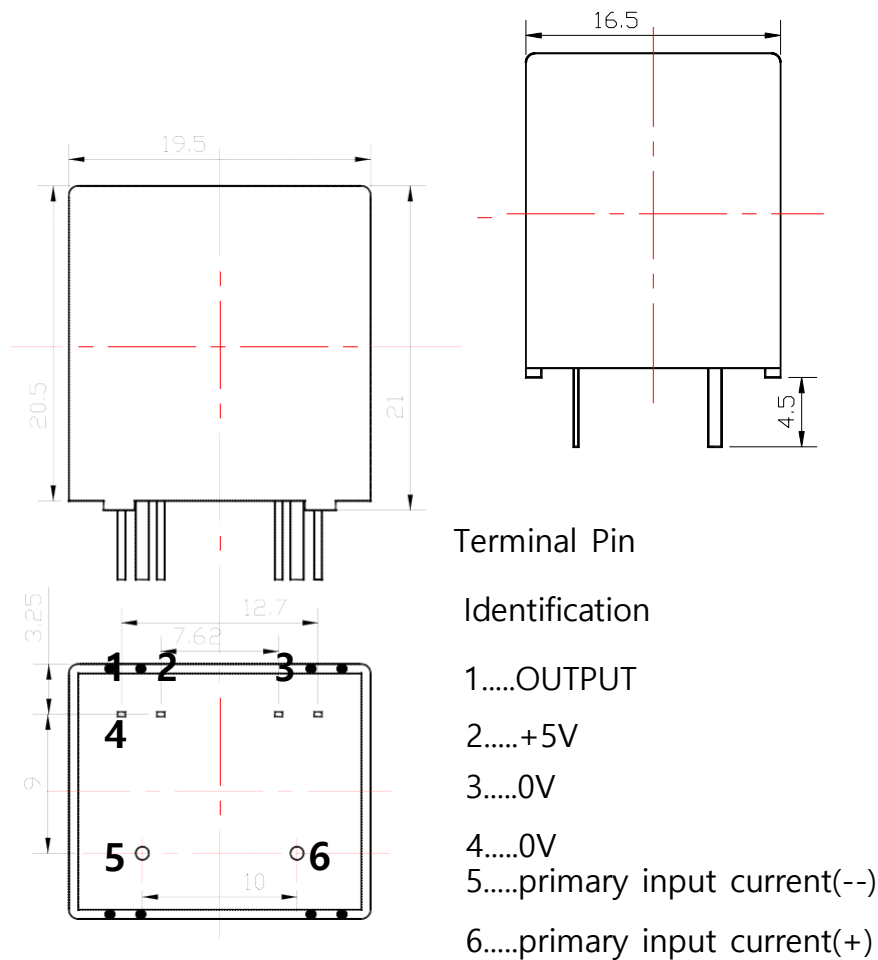
Type Parameter	TBC05PS5	TBC10PS5	TBC15PS5	TBC25PS5	TBC30PS5	Unit
Rated input (I <sub>pn</sub> )	±5	±10	±15	±25	±30	A
Measuring range (I <sub>p</sub> )	±15	±30	±45	±75	±90	A
Turns ratio (N <sub>p</sub> /N <sub>s</sub> )	3:960	2:960	2:960	1:1200	1:960	T
Internal resister	10±0.1%	7.5±0.1%	5.0±0.1%	7.5±0.1%	5.0±0.1%	Ω
Rated output	@ I <sub>p</sub> =±I <sub>pn</sub> ±0.625±0.5%					V
Size of primary pins	ø 0.8	ø 1.0	ø 1.0	ø 1.4	ø 1.6	mm
Supply voltage	+5±5%					V
Power consumption	≤20+I <sub>p</sub> /N <sub>s</sub>					mA
Zero voltage	@ I <sub>p</sub> =0 +2.5±0.5%					V
Offset drift	@ -40 ~ +105°C ≤±0.05					mV/°C
output drift	@ -40 ~ +105°C ≤±0.05					mV/°C
Linearity	@ I <sub>p</sub> =0-±I <sub>pn</sub> ≤0.1					%FS
Total accuracy	≤±0.7					%
di/dt accurately followed	> 50					A/μS
Response time	@ I <sub>p</sub> =I <sub>pn</sub> , 50 A/μS, 10%-90% < 500					nS
Bandwidth	@ -3dB DC-200					KHz
Galvanic isolation	@ 50Hz, AC, 1min 2.5					KV

# TBC-PS5 Series Two-closed Loop Hall Effect Current Sensor

## Applications

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

## Mechanical dimension (for reference only)



Remarks :

1. All dimensions are in mm.
2. General tolerance  $\pm 1\text{mm}$ .

## 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.

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## Standards

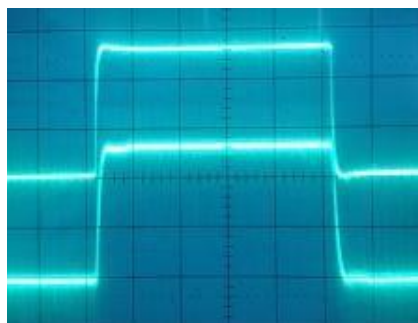
- UL94-V0
- EN60947-1:2004
- IEC60950-1:2001
- EN50178:1998
- SJ 20790-2000

## General data

	Value	Unit	Symbol
Operating temperature	-40 to +105	°C	TA
Storage temperature	-40 to +125	°C	TS
Mass(approx)	12	g	M

## Characteristics chart

Pulse current signal response characteristic



← (Input signal)  
← (Output signal)

Effects of impulse noise



← (Output voltage)