

# TBC-SYH565 Series High Precision Closed Loop Mode Hall Effect Current Sensor



TBC-SYH565 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°C±5°C, RL=2KΩ, CL=10000PF)

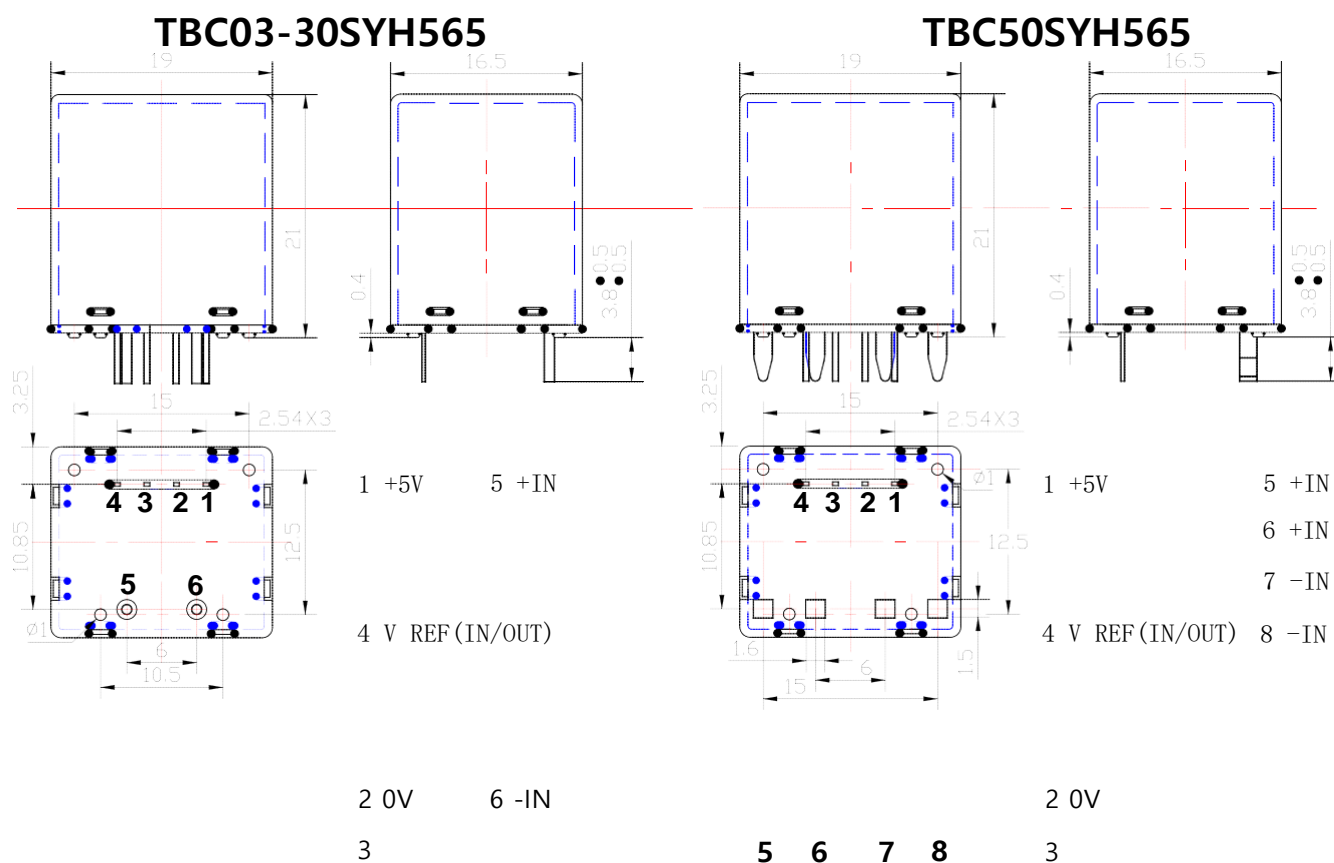
Type Parameter	TBC-03 SYH565	TBC-05 SYH565	TBC-10 SYH565	TBC-15 SYH565	TBC-20 SYH565	TBC-25 SYH565	TBC-30 SYH565	TBC-50 SYH565	Unit
Rated input (I <sub>pn</sub> )	±3	±5	±10	±15	±20	±25	±30	±50	A
Measuring range (I <sub>p</sub> )	±9	±15	±30	±45	±60	±75	±90	±150	A
Size of input pins	∅ 0.6	∅ 0.8	∅ 1.0	∅ 1.0	∅ 1.4	∅ 1.4	∅ 1.6	□1.6 × 1.5×2	mm
Turns ratio (N <sub>p</sub> /N <sub>s</sub> )	5 : 1440	3 : 1440	2 : 1280	2 : 1440	1 : 1280	1 : 1200	1 : 960	1 : 960	T
Inside resistance	15 ±0.1%	15 ±0.1%	10 ±0.1%	7.5 ±0.1%	10 ±0.1%	7.5 ±0.1%	5 ±0.1%	3 ±0.1%	Ω
Rated output	@ I <sub>p</sub> =±I <sub>pn</sub> ±0.625±0.5%								V
Supply voltage	+5±5%								V
Power consumption	15+I <sub>p</sub> X (N <sub>p</sub> /N <sub>s</sub> )								mA
Zero voltage	2.5±0.4%								mV
Offset drift	≤±0.1								mV/°C
Output drift	≤±0.1								mV/°C
Linearity	@ I <sub>p</sub> =0-±I <sub>pn</sub> ≤0.1								%FS
Response time	@ I <sub>p</sub> =I <sub>pn</sub> , 50 A/μS, 10%-90% < 0.5								μS
Band-width	@ -3dB DC-200								KHz
Galvanic isolation	@ 50Hz, AC, 1min 3.5								KV

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## 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)



## 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

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## 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

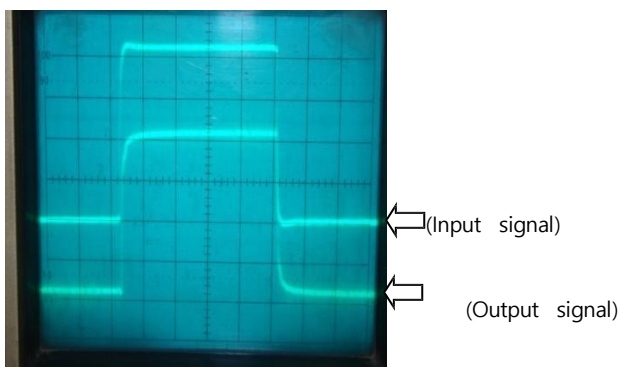
UL94-V0.  
EN60947-1:2004  
IEC60950-1:2001  
EN50178:1998  
SJ 20790-2000

## General data

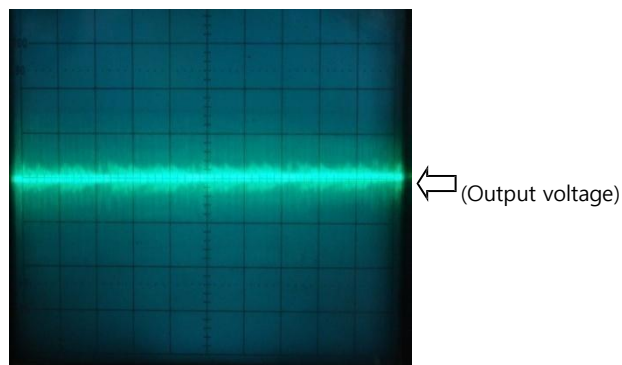
	Value	Unit	Symbol
Operating temperature	-40 to +105	°C	TA
Storage temperature	-40 to +125	°C	TS
Mass(approx)	12	g	M

## Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise



Input current-Output Voltage characteristic

Primary Current ( $I_p$ )--Output

