# TBC-APS51 Series Closed Loop Mode Hall Effect Current Sensor

TBC-APS51 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, It uses for precision measurement of DC, AC and pulse current.

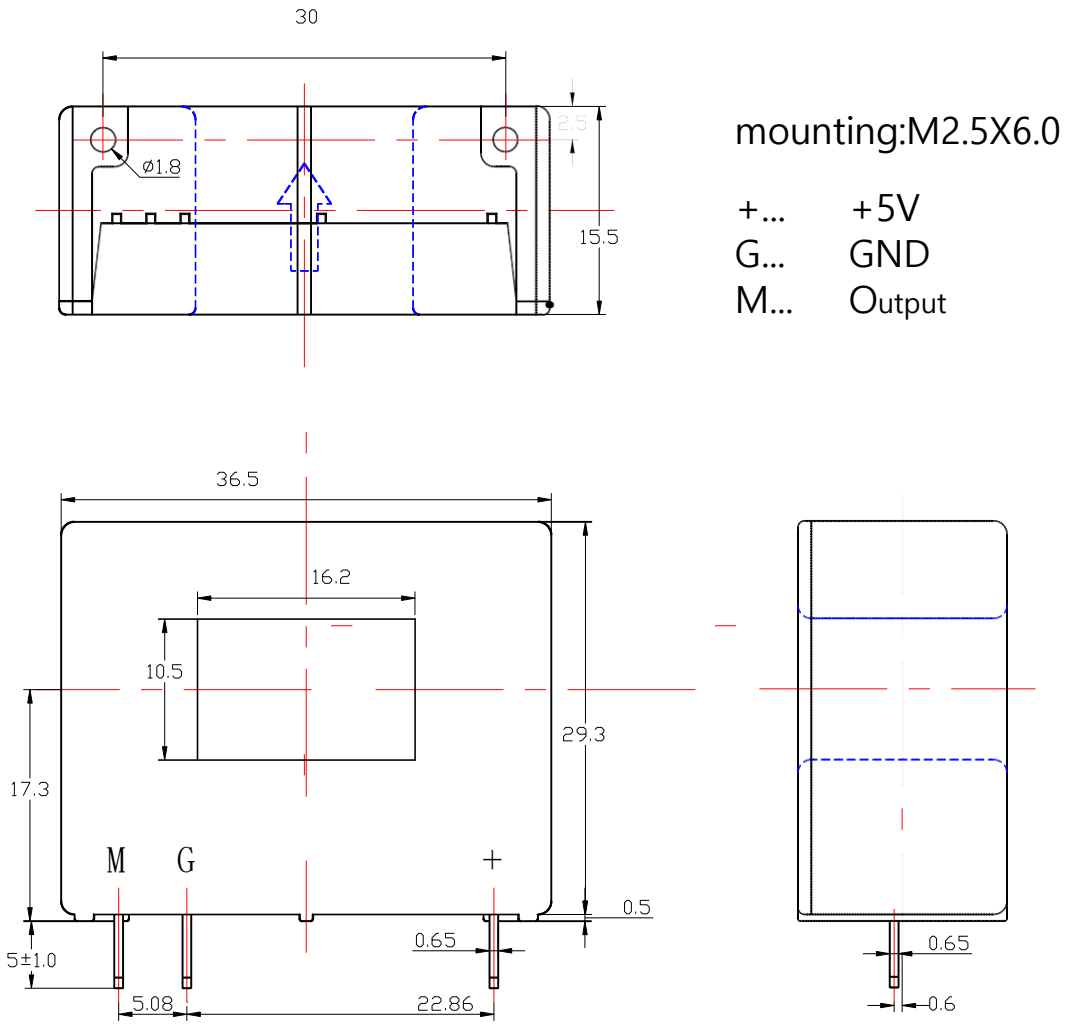
Electrical data **(Ta=25**℃±**5**℃,RL=10K**Ω,C**L=4700PF)

| Type / Parameter | TBC-50APS51 | TBC- 75APS51 | TBC- 100APS51 | TBC- 150APS51 | Unit |
|---|---|---|---|---|---|
| Rated input (Ipn) | ±50 | ±75 | ±100 | ±150 | A |
| Measure range(Ip) | ±100 | ±150 | ±200 | ±300 | A |
| Turns ratio(Np/Ns)) | 1:1500 | 1:1500 | 1:2000 | 1:1800 | T |
| Internal resister | 7.5±0.1% | 5±0.1% | 5±0.1% | 3±0.1% | Ω |
| Rated output | @Ip=±Ipn | ±1.0±0.5% | | | V |
| Supply voltage | +5.0 ±2% | | | | V |
| Power consumption | ≤20+IpX(Np/Ns) | | | | mA |
| Zero voltage | @Ip=0 | +2.5±0.4% | | | V |
| Zero voltage | ≤±5 | | | | mV |
| Magnetic Offset voltage | ≤±3.0 | | | | mV |
| Offset drift | ≤±0.1 | | | | mV/℃ |
| output drift | ≤±0.1 | | | | mV/℃ |
| Linearity | @Ip=0-±Ipn | ≤0.1 | | | %FS |
| Response time | @50A/μS,10%-90% | ≤0.5 | | | μs |
| Band-width | @-3dB | DC-200 | | | KHz |
| Galvanic isolation | @ 50Hz,AC,1min | 2.5 | | | KV |

## 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 ±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. Customs can adjust Output amplitude of the sensor by needs.

3. 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

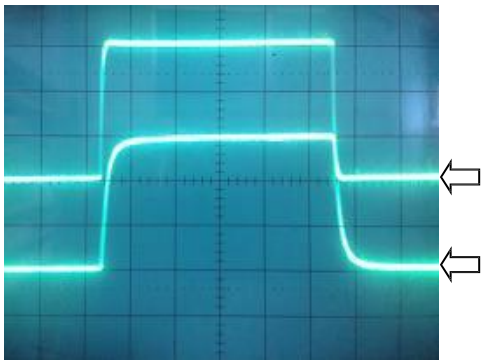
SJ 20790-2000

## General data

| | Value | Unit | Symbol |
|---|---|---|---|
| Operating temperature | -40 to +85 | ºC | TA |
| Storage temperature | -40 to +125 | ºC | TS |
| Mass(approx) | 18 | g | M |

## Characteristics chart

Pulse current signal response characteristic




Effects of impulse noise