# TBC-1000LFA High Precision Closed Loop Mode Hall Effect Current Sensor

TBC1000LFA current sensor is a closed loop device based on the measuring principle of the hall effect and null balance method ,with a galvanic isolation between primary and secondary circuit, the size of primary not affect test precision, no matter the location of primary in the hole of current sensor, It can really measure resolution 1000:1 and it uses for precision measurement of DC, AC and pulse current.

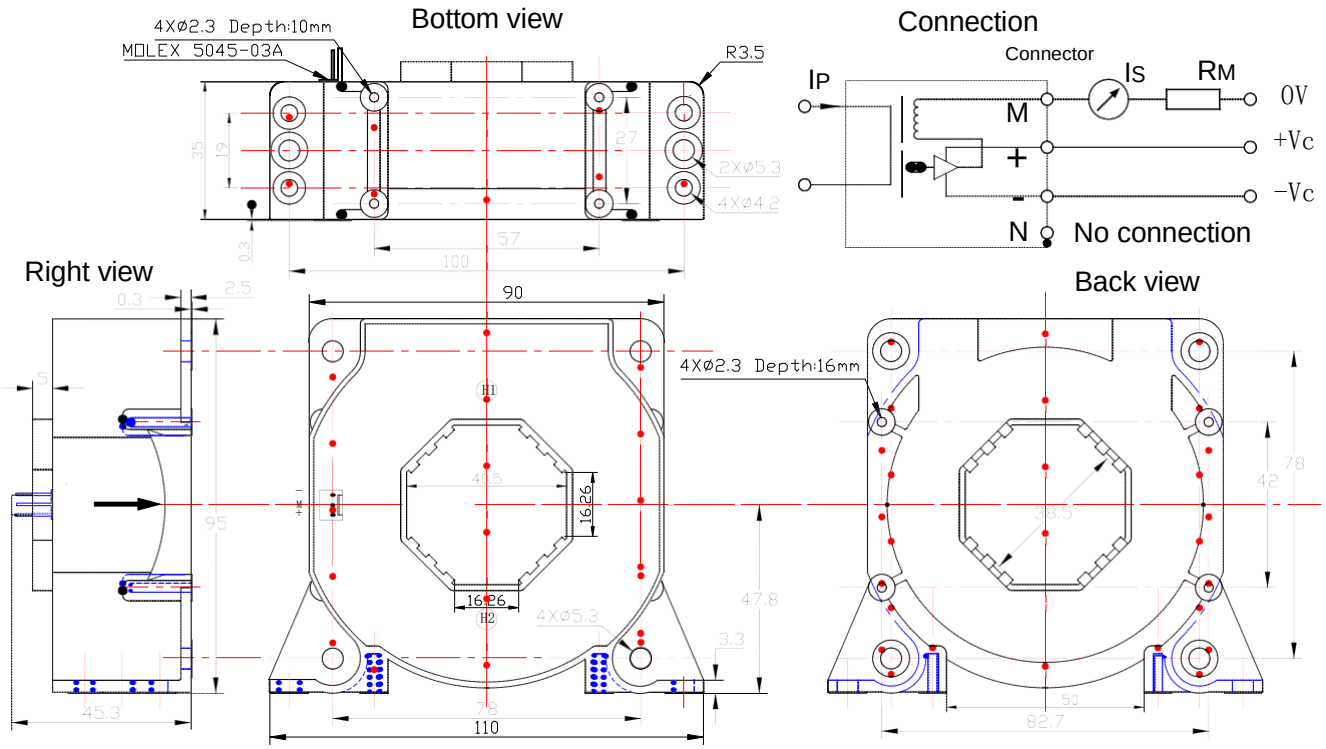
## Electrical data (Ta=25℃±5℃)

| Parameter \ Type | TBC1000LFA | | | Unit |
|---|---|---|---|---|
| Rated input (Ipn) | ±1000 | | | A |
| Measure range (Ip) | ±2000 | | | A |
| coil resister | @ 70℃ | 55 | | Ω |
| Measure resister | with±15V @±1000Amax | 0(min) | 10(max) | Ω |
| | with±15V @±1200Amax | 0(min) | 2.0(max) | Ω |
| | with±24V @±1000Amax | 0(min) | 55(max) | Ω |
| | with±24V @±2000Amax | 0(min) | 2.0(max) | Ω |
| Turns ratio (Np/Ns) | 1:5000 | | | T |
| Rated output (Isn) | ±200±0.2%FS | | | mA |
| Supply voltage | ±15 ~ ±24 | | | V |
| Power consumption | ≤20+IpX (Np/Ns) | | | mA |
| Zero offset | @Ip=0 | ≤±0.2 | | mA |
| Offset drift | ≤±0.5 ( Typ ) , ≤±0.75 ( Max ) , | | | mA |
| Response time | @100A/μS,10%-90% | < 1 | | μs |
| Linearity | @Ip=0-±Ipn | ≤0.1 | | %FS |
| Galvanic isolation | @ 50HZ, AC, 1min | 6 | | KV |
| di/dt accurately followed | > 100 | | | A/μs |
| Band-width | @-3dB | DC-200 | | KHz |

## Applications

- AC variable speed drives
- Static converters for DC motor drives
- Variable speed drives
- Power supplies for welding applications
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)

## Mechanical dimension (for reference only)




Remarks :

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

## Directions for use

1. Is will be in a forward direction when the Ip flows according to the direction of the arrowhead.
2. The primary conductor should be≤120℃.
3. The dynamic performance (di/dt and the response time) is the best when the primary hole is fully filled with the bus bar.

## Standards

UL94-V0

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

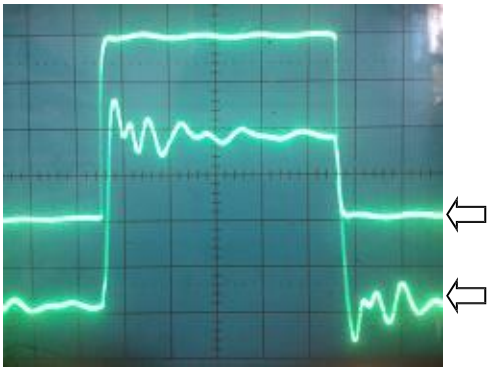
SJ 20790-2000

## General data

| | Value | Unit | Symbol |
|---|---|---|---|
| Operating temperature | -40 to +85 | ºC | TA |
| Storage temperature | -40 to +125 | ºC | TS |
| Mass(approx) | 570 | g | M |

## Characteristics chart

Pulse current signal response characteristic




Effects of impulse noise