TBC-A02 Series Closed Loop Mode Hall Effect Current Sensor

TBC- A02 series 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. It provides accurate electronic measurement of DC, AC or pulsed currents.

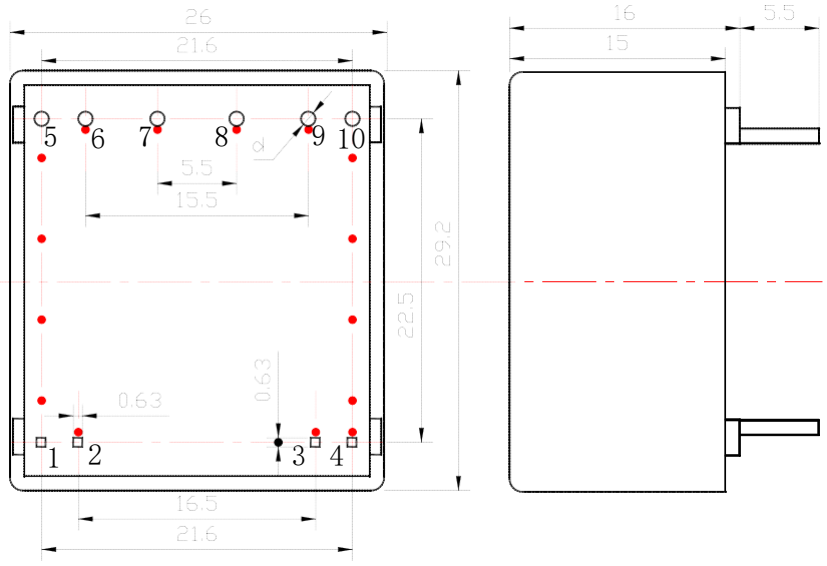
Electrical data (Ta=25℃±5℃)

Parameter \ Type	TBC0.5A02	TBC1.0A02	TBC2.0A02	TBC5.0A02	TBC10A02	TBC20A02	Unit
Rated input (Ipn)	±0.5	±1	±2	±5	±10	±20	A
Measure range (Ip)	±1.5	±3.0	±6	±15	±30	±60	A
Turns ratio (Np/Ns)	30:1500	15:1500	8:1600	3:1500	2:2000	1:2000	T
Internal measuring resister	400±0.1%	400±0.1%	400±0.1%	400±0.1%	400±0.1%	400±0.1%	Ω
Rated output voltage	@ Ip=±Ipn		±4±0.5%				V
Supply voltage	±15 ±5%						V
Power consumption	≤20+IpX (Np/Ns)						mA
Zero offset voltage	@ Ip=0		≤±20				mV
Offset voltage drift	≤±0.5						mV/℃
Linearity	@ Ip=0-±Ipn		≤0.1				%FS
Response time	@100A/μS,10%-90%		≤1				μS
Band-width	@-3dB		DC-200				KHz
Galvanic isolation	@ 50HZ, AC,1min		2.5				KV

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)



Terminal Pin Identification

1..... +15V
2..... -15V
3..... OV
4..... Output
5.6.7...Primary input current (+)
8.9.10...Primary input current(-)

	Current	d	Connected
1	0.5A-3A	2-Φ0.6	5/10
2	5A/10A	2-Φ1.6	6/9
3	20A	4-Φ1.6	6-7/8-9

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 are available.

Standards

UL94-V0.

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

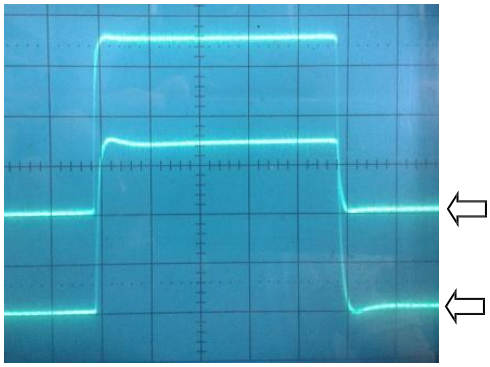
SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	21	g	M

Characteristics chart

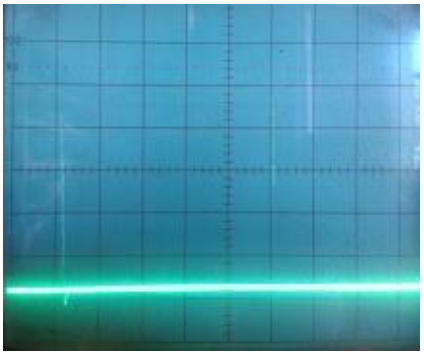
Pulse current signal response characteristic



(Input signal)

(Output signal)

Effects of impulse noise



(Output voltage)