TBC-DT Series Closed Loop Mode Hall Effect Current Sensor

TBC-DT 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.

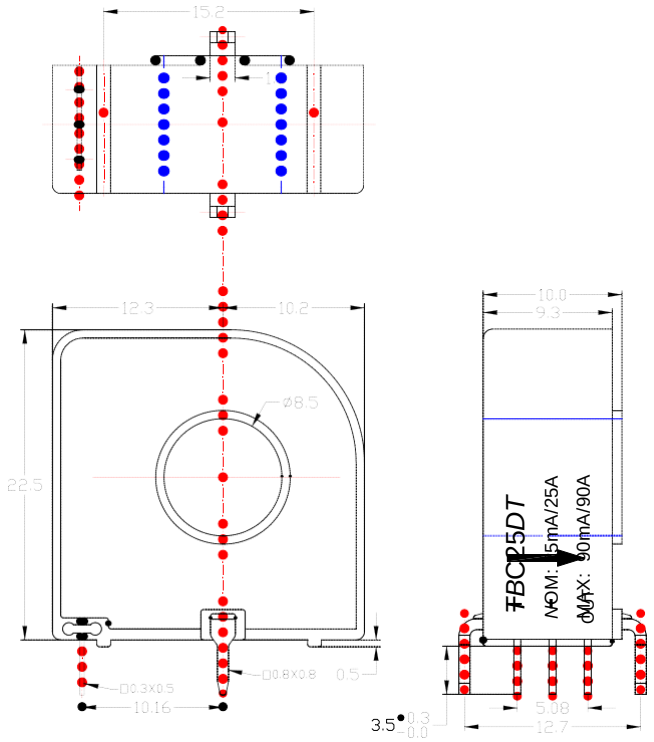
Electrical data (Ta=25℃±5℃)

Type / Parameter	TBC15DT	TBC25DT	TBC50DT	Unit
Rated input (Ipn)	±15	±25	±50	A
Measure current range (Ip)	±30	±50	±100	A
Secondary Turns (Ns)	1200±1	1000±1	2000±2	T
Secondary resister	36	30	95	Ω
Rated output (Isn)	@Ip±Ipn	±12.5/25±0.5%		mA
Supply voltage	±15±5%			V
Power consumption	≤20+Ip/Ns			mA
Zero Offset current	@ Is=0	±0.2		mA
Offset current drift	≤±0.6			mA
Linearity	@ Ip=0-±Ipn	≤0.1		%FS
Total precision	≤±0.7			%FS
di/dt accurately followed	> 50			A/μS
Response time	@ Ip=Ipn,50 A/μS,10%-	< 1		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. 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

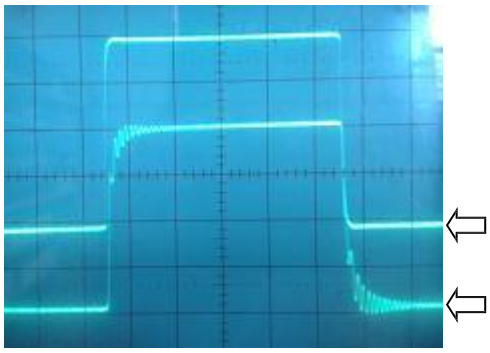
SJ 20790-2000

General data

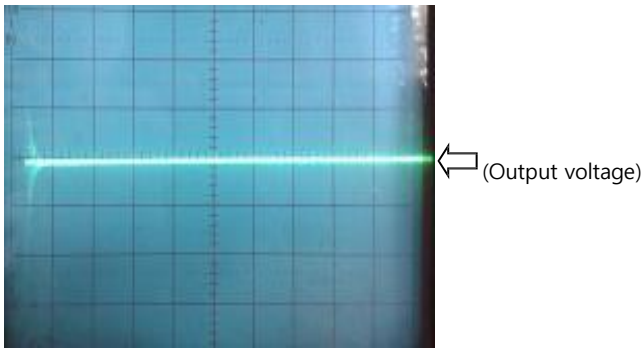
	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	9	g	M

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise



Operation Principle