TBC-LTAR5V Series Closed Loop Mode Hall Effect Current Sensor

TBC-LTAR5V 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 is used for precision measurement of DC, AC and pulse current.

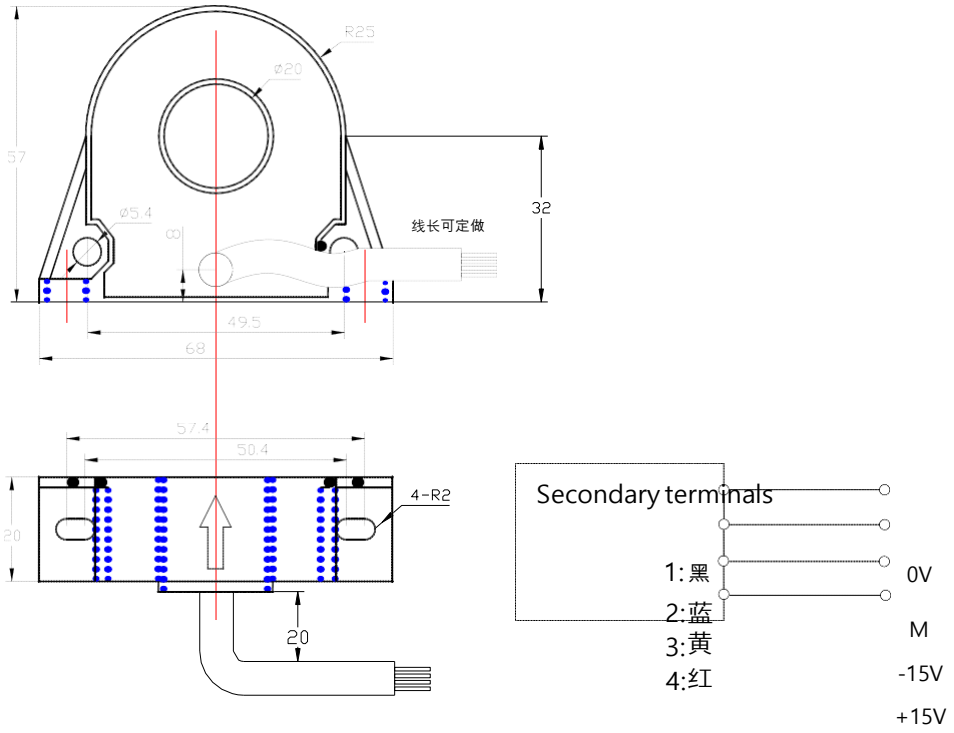
Electrical data (Ta=25℃±5℃)

Parameter \ Type	TBC50LTAR5V	TBC100LTAR5V	TBC200LTAR5V	TBC300LTAR5V	TBC400LTAR5V	Unit
Rated input Ipn)	±50	±100	±200	±300	±400	A
Measure range (Ip)	±150	±300	±600	±600	±600	A
Turns ratio (Np/Ns)	1:1000	1:2000	1:2000	1:3000	1:3000	T
Secondary resister	30	20	20	46	46	Ω
Rated secondary output	±50	±50	±100	±100	±133.3	mA
Rated output	±5±0.2%					V
Supply voltage	±12～±15					V
Power consumption	≤25+IpX(Np/Ns)					mA
Zero voltage	@Ip=0	≤±15				mV
Zero Offset drift	≤±0.75（Typ）,≤±2.0（Max）					mV/℃
Output drift	≤±0.25（Typ）,≤±0.75（Max）					mV/℃
Response time	@100A/μS, 10%-90%	< 1.0				μs
Linearity	@Ip=0-±Ipn	≤0.1				%FS
Galvanic isolation	@ 50Hz, AC,1min	6				KV
di/dt accurately followed	> 100					A/μs
Bandwidth	@-3dB	DC-200				KHz

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. Is will be in a forward direction when the Ip flows according to the direction of the arrowhead.
2. The primary conductor should be≤100℃.

3. The dynamic performance (di/dt and the response time) is the best when the primary hole is fully filled with the bus bar.
4. The primary turns should be at the top of the sensor for the best magnetic coupling.

Standards

UL94-V0.

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

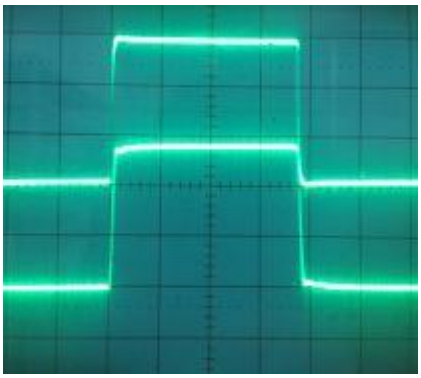
SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	75	g	M

Characteristics chart

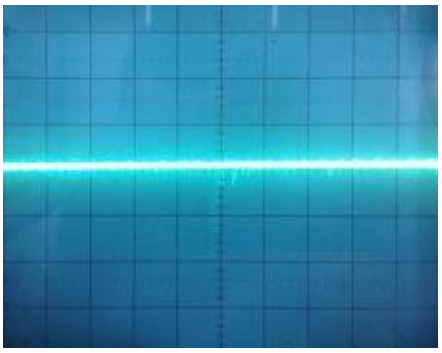
Pulse current signal response characteristic



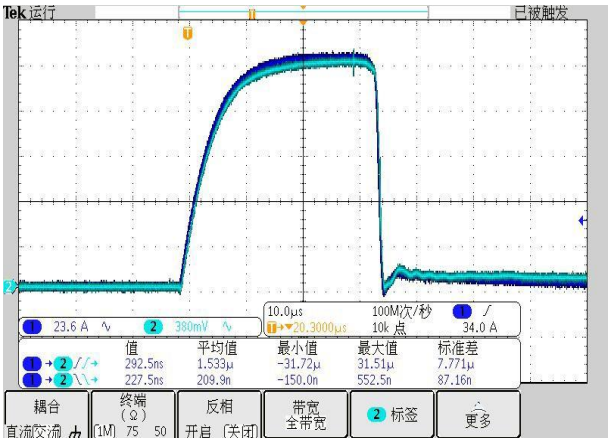
(Input signal)

(Output signal)

Effects of impulse noise



(Output voltage)



DI/DT测试