TBC-APT Closed Loop Mode Hall Effect Current Sensor

TBC-APT 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.

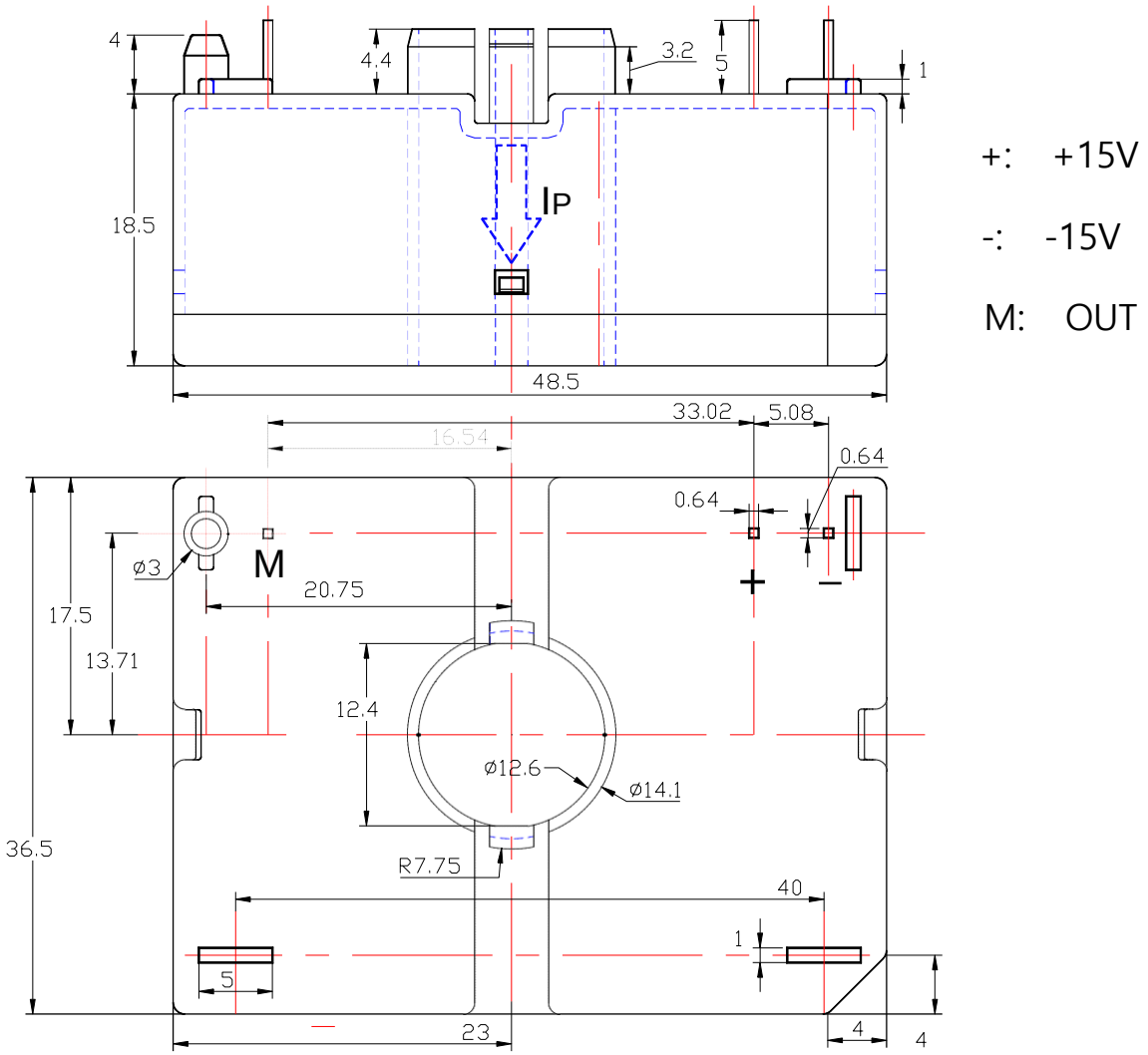
Electrical data (Ta=25℃±5℃)

Parameter \ Type	TBC100APT	TBC200APT	TBC230APT	Unit
Rated input (Ipn)	±100	±200	±230	A
Measure range (Ip)	±300(±18V，70Ω)	±600(±18V，12Ω)	±600(±18V，12Ω)	A
Turns ratio (Np/Ns)	1:2000	1:2000	1:2000	T
Secondary coil resister	35	35	35	Ω
Rated output (Isn)	50±0.5%	100±0.5%	115±0.5%	mA
Measure resister (RM)	12-280			Ω
Supply voltage	±12～±18			V
Power consumption	≤20+IpX(Np/Ns)			mA
offset current	@Ip=0	≤±0.2		mA
Offset current drift	≤±0.5			mA
Linearity	@Ip=0-±Ipn	≤0.1		%FS
Band-width	@-3dB	DC-200		KHz
Response time	@100A/μS,10%-90%	≤1		μs
Galvanic isolation	@ 50HZ,AC,1min	3.0		KV

Applications

- AC variable speed drives and servo motor 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. When measure current flows according to the direction of the arrowhead, Output terminal gets the same phase current.
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.
4. 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)
5. Custom design in the different rated input current and the output current are available.

Standards

UL94-V0

EN60947-1:2004

IEC60950-1:2001

EN50178:1998

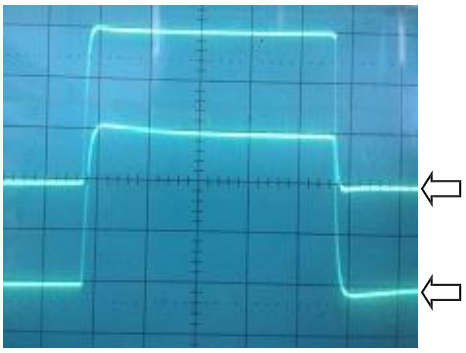
SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	30	g	M

Characteristics chart

Pulse current signal response characteristic



Effects of impulse noise