TBV5、10/25A Series Hall Effect Voltage Sensor

The TBV5、10/25A series current mode voltage sensor is a device based on the principle of the hall effect, with a galvanic isolation between primary and secondary circuit, It provides accurate electronic measurement of DC AC or pulsed currents.

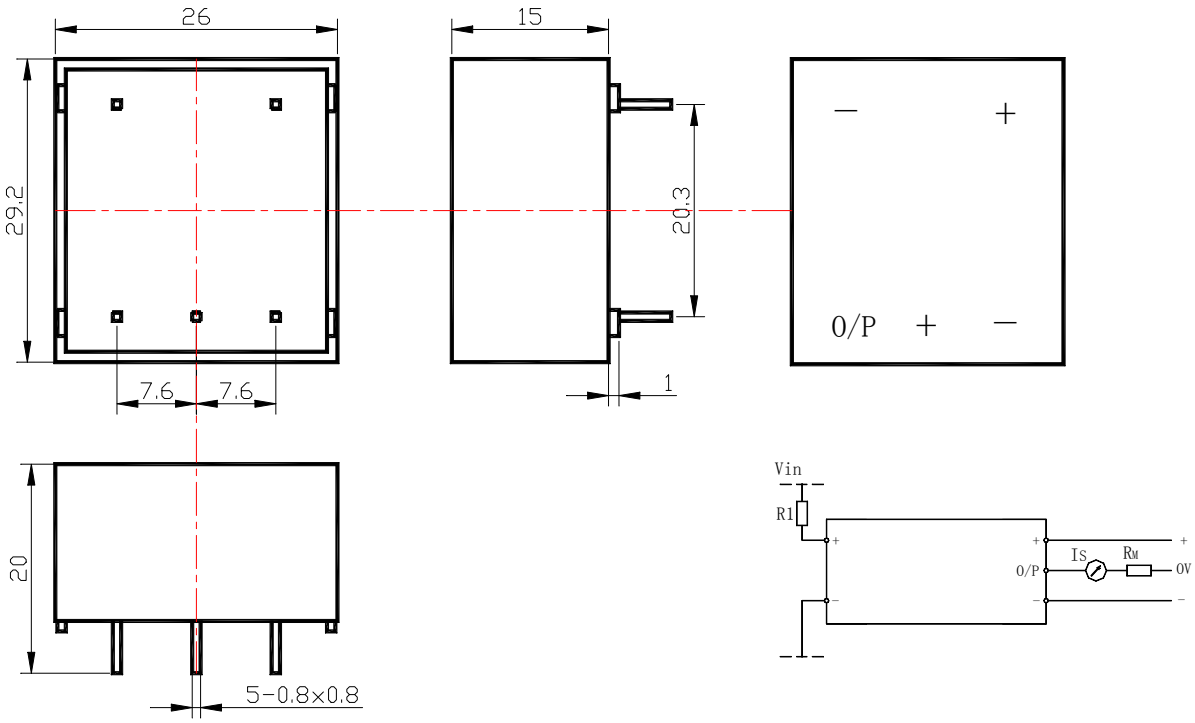
Electrical data(Ta=25℃±5℃)

Parameter \ Type	TBV5/25A	TBV10/25A	Unit
Rated input (Ipn)	5	10	mA
Measure range(Ip)	7	14	mA
Turns ratio(Np/Ns)	5000:1000	2500:1000	T
Primary coil resister	650	200	Ω
Secondary coil resister	110	110	Ω
Measure resister	±15V @(±5)±10mAmax 100(min) 350(max) @(±7)±14mAmax 100(min) 190(max)		Ω
Rated output (Isn)	@Ip=±Ipn ±25±0.5%		mA
Supply voltage	±15±5%		V
Power consumption	20+IpX(Np/Ns)		mA
Zero offset current	@Ip=0 ±0.2		mA
Offset current drift	@ -40℃～+85℃ ±0.5		mA
Response time	40		μs
Linearity	@Ip=0-±Ipn ≤0.2		%FS
Galvanic isolation	@ 50HZ,AC,1min 2.5		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. The accuracy of sensor will be the best when the current passes through resister R1 and becomes the rated primary current, and therefore the current to be measured by sensor should comply with the primary current 10mA.

2. For example, VIN=250V:
   Accuracy =±0.8%ofVIN（@Ta=+25℃） a) R1=25KΩ/10W,IP =10mA
   Accuracy =±1.6%ofVIN（@Ta=+25℃） b) R1=50KΩ/ 5W,IP =5mA

3. Considering resistance of primary coil (compared with R1 and temperature difference kept as low as possible) and electrical isolation within measure range (recommended), this sensor is suitable for measuring voltage.

Standards

- UL94-V0.
- EN60947-1:2004
- IEC60950-1:2001
- EN50178:1998
- SJ 20790-2000

General date

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	20	g	M

Characteristics chart

Effects of impulse noise