TBV10/50LVA mode 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 voltage.

Electrical data (Ta=25℃±5℃)

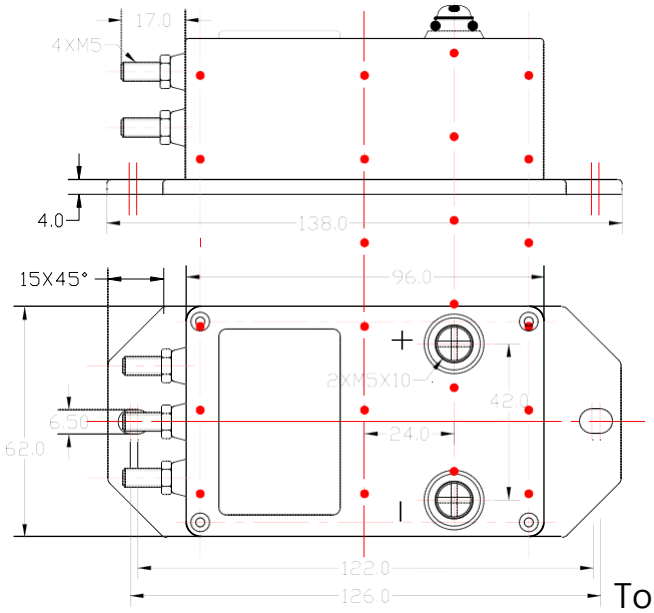
Type / parameter	TBV10/50LVA	Unit
Rated input (Ipn)	±10	mA
Measure range (Ip)	±20	mA
Turns ratio (Np/Ns)	5000 : 1000	T
Primary resister	1.5KΩ,6H	Ω
Secondary resister	@ +85℃ 55	Ω
Rated output (Isn)	@Ip=±Ipn ±50±0.5%	mA
Resister measured	@ ±15V Ipn 50（min）, 200（max）	Ω
	@ ±15V 2XIpn 0（min）, 100（max）	Ω
	@ ±24V Ipn 100（min）, 330（max）	Ω
	@ ±24V 2XIpn 100（min）, 200（max）	Ω
(±10%) Supply voltage	±15 —±24	V
Offset current	@ Ip=0 ≤±0.2	mA
Offset drift	@ -40～+85℃ ≤±0.5； @ -50～-40℃ ≤±1.0；	mA
Linearity	@ Ip=0-±Ipn ≤0.1	%FS
Response time	≤200	μS
Galvanic isolation	@ 50HZ,AC,1min Between primary and secondary + shield 9.0	KV
	@ 50HZ,AC,1min n secondary and shield 2.0	KV

Applications

- Variable speed drives
- Welding machine
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Electrochemical

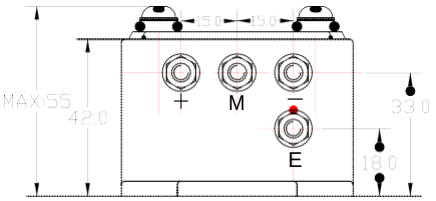
Mechanical dimension (for reference only)

Front view

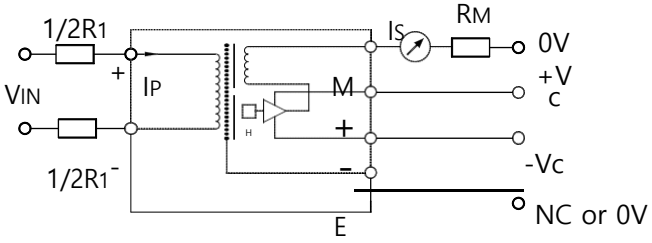


Top view

Left view



Connection



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, V_{PN}=1000V:

   (Accuracy) =±0.8% of V_{PN} (@Ta=+25℃) a) R1=100KΩ/20W, I_P =10mA

   (Accuracy) =±2.5% of V_{PN} (@Ta=+25℃) b) R1=400KΩ/ 5W, I_P =2.5mA
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

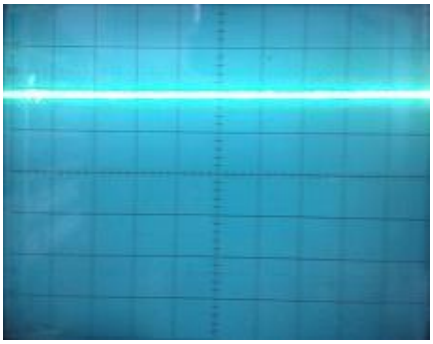
- UL94-V0
- EN60947-1:2004
- IEC60950-1:2001
- EN50178:1998
- SJ 20790-2000

General data

	Value	Unit	Symbol
Operating temperature	-40 to +85	ºC	TA
Storage temperature	-40 to +125	ºC	TS
Mass(approx)	480	g	M

Characteristics chart

Effects of impulse noise



⇦ (Output voltage)

≤1uS