# DVDI Series Miniature Precision AC Voltage and Current Transformers

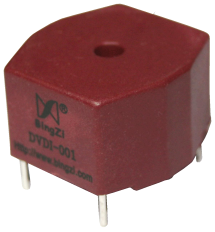
LI025V1/2008-EN

## 1. Features

① It can be used as either a voltage transformer or a current transformer.
② It is fully encapsulated, has strong mechanical and environmental endurance, strong dielectric strength, and an elegant outline.
③ It is capable of being directly welded onto a PCB.
④ It has a pin-grid of 2.54mm, which meets the requirements of computerized board arrangement.
⑤ It is lightweight, small in size, highly accurate, has a wide sampling range, and is flexible in its applications.

## 2. Ambient Conditions

① Ambient temperature: -55℃～+85℃;
② Relative humidity: ≤90% at 40℃;
③ Atmospheric pressure: 860～1060mbar (about 650～800mmHg).



## 3. Operating Frequency Range: 20Hz~20kHz

## 4. Insulation Thermal Class: Class B (130℃)

## 5. Safety Features:

① Dielectric resistance: >1000MΩ in normal condition;
② Insulation withstand voltages: 3KV 50Hz/1min (used as a voltage transformer);
6KV 50Hz/1min (used as a current transformer);
③ Fire retardancy: In conformity with UL94-V0.

## 6. Outline Drawing, Installation Dimension and Coil Diagram:(Tolerance±0.5mm)

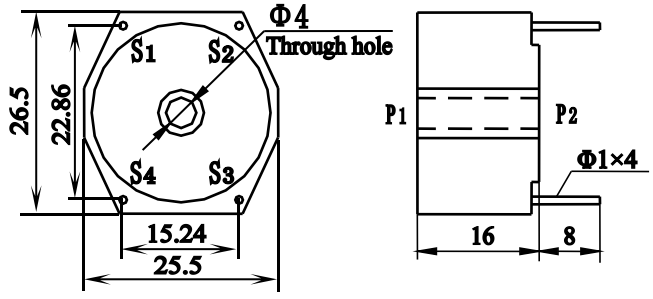



Figure 1

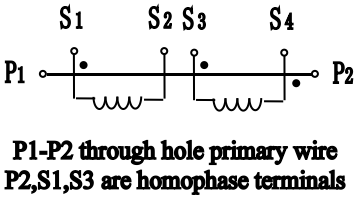



Figure 2

## 7. Typical Usage and Technical Parameters

① Used as a voltage transformer
DVDI model is actually a current-type voltage transformer when it is used as a voltage transformer. Fig.1 and Fig.2 show the two typical applications, respectively. The parameters are listed in Table 1.

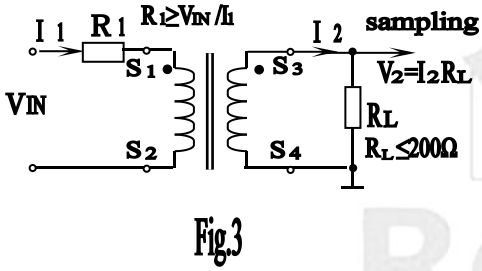



Fig.3

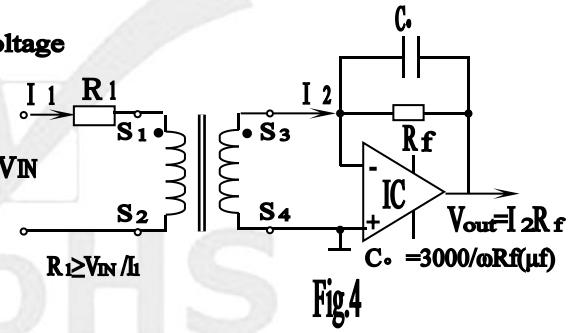



Fig.4

Table 1：

| Usage | Model | Input Voltage | Output Voltage | Phase Shift | Non Linearity | Linear Range | Rated Current | Withstand Voltage |
|---|---|---|---|---|---|---|---|---|
| Used as in Fig.1 | DVDI-001 | ≤1000Vac | ≤1.2V | ≤30’ | ≤0.2% | 1.5 times of the rated value | 6mA/6mA | ≥3KV |
| | DVDI-001M | ≤1000Vac | ≤1.5V | ≤40’ | ≤0.25% | | | |
| Used as in Fig.2 | DVDI-001 | ≤1000Vac | ≤1/2 IC’s power supply | ≤5’ | ≤0.1% | 2 times of the rated value | | |
| | DVDI-001M | ≤1000Vac | | ≤5’ | ≤0.1% | | | |

② Used as a current transformer

With a through hole wire inserted as primary input, DVDI model can be used as a current transformer, which derives four applicable connections in output as shown in Fig.3, Fig.4, Fig.5, and Fig.6. The parameters are shown in Table 2 and Table 3.

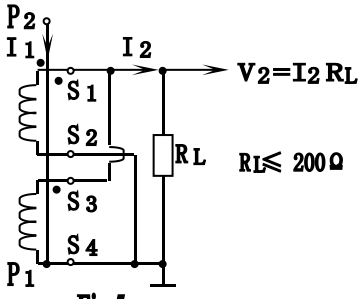



Fig.5

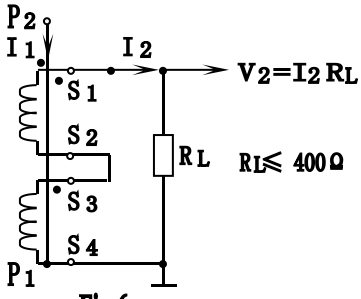



Fig.6

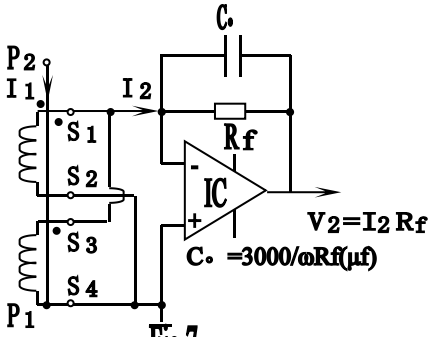



Fig.7

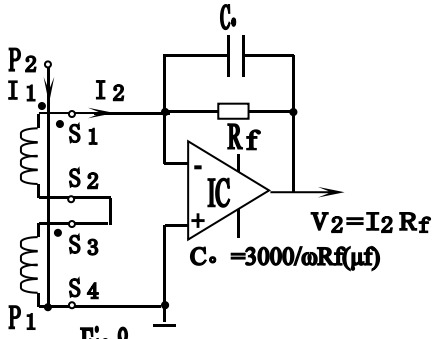



Fig.8

Table 2：

| Usage | Model | Rated Input Current | Rated Output Current | Rated Sampling Resistance | Rated Sampling Voltage | Phase Shift | Non Linearity | Linear Range | Withstand Voltage |
|---|---|---|---|---|---|---|---|---|---|
| Used as in Fig.3 | DVDI-001 | 9A | 6mA | 200Ω | 1.2V | ≤30’ | ≤0.2% | 1.5 times of the rated value | ≥6KV |
| | DVDI-001M | | 6mA | 250Ω | 1.5V | ≤40’ | ≤0.25% | | |
| Used as in Fig.4 | DVDI-001 | 18A | 6mA | 400Ω | 2.4V | ≤20’ | ≤0.2% | | |
| | DVDI-001M | | 6mA | 500Ω | 3V | ≤27’ | ≤0.25% | | |

Table 3：

| Usage | Model | Rated Input Current | Rated Output Current | Rated Sampling Voltage | Phase Shift | Non Linearity | Linear Range | Withstand Voltage |
|---|---|---|---|---|---|---|---|---|
| Used as in Fig.5 | DVDI-001 | 9A | 6mA | ≤1/2times of IC’s power supply | ≤5’ | ≤0.1% | ≥2 times of the rated value | ≥6KV |
| | DVDI-001M | | 6mA | | | | | |
| Used as in Fig.6 | DVDI-001 | 18A | 6mA | | | | | |
| | DVDI-001M | | 6mA | | | | | |

## 8. Attention

Whether used as a voltage transformer or current transformer, it is fundamentally a current-type transformer in principle. Therefore, an open circuit is not permitted in the secondary circuit. For this reason, do not connect any fuse in the secondary circuit.