Speciality Magnetic Components
Qualified to ISO 9001:2008

DC Voltage Transformer Type DCVT5U

The DCVT5U is a linear isolating transformer for power level DC voltages. It derives its power economically from the signal to be monitored and needs no external power supply. For accurate measurement of DC voltage in control applications, these voltage isolating transformers give excellent and rugged performance under adverse conditions. The method of operation gives complete galvanic isolation between the primary power circuit and the secondary monitoring circuit. This device is for unipolar applications only.

Features
- 6 kV Proof Stress
- Solid potted construction
- 25V to 10V transformation ratio
- Threaded bush mounting

Benefits
- Galvanic Isolation
- High Accuracy
- No power supply needed
- Rugged Design

Applications
- Railway traction
- DC transmission systems
- Process Equipment
- Safety systems
- Ground Loop Prevention
- Remote signal Isolators

TECHNICAL DATA

Nominal Voltage Transformation Ratio	25V : 10V
Standard Load Resistance	1kΩ
Input Current (V_{out} =10V R_L = 1kΩ)	13.9mA
Operating Temperature Range	-10 to +65°C
Storage Temperature Range	-15°C to +90°C

SPECIFICATION

Transformation Ratio Error	±1% max.
Interchangeability (unit to unit)	±2% max.
Independent linearity (= 0.5 - 10V)	0.2% max.
Frequency response (-3dB)	DC to 5kHz min.
Response Time for Step Input	100µs max.
Output Rise Time (10% - 90% V_{out})	50µs typ.
Output Ripple Amplitude (pk-pk)	0.5% of V_{out}
Output Ripple Frequency	80kHz typ..
Internal Dissipation	300mW max.
Peak Input Voltage Across Terminals 1 to 2	-0.3V to 26V max.
Proof Stress Voltage	6kV a.c., rms, 50Hz for 1 minute
Insulation Resistance (i/p to o/p+mounting)	1GΩ min.

GENERAL DATA

Weight	280g typ.
Housing Material	Resin cast
Signal Sense	i/p:- 1 -ve, 2 +ve, o/p:- 4 -ve, 3 +ve.
Mounting	Two M5 threaded bushes imbedded in base

Note the specification above is for a maximum input of 25V and a load resistance of 1kΩ. For use with other inputs voltages and load resistances see the DCVT Series Application Note