# DC VOLTAGE TRANSDUCER — MODEL DVT7

## USER-SELECTABLE INPUT RANGES

## DESCRIPTION

The **DVT7** is a dc voltage transducer with user-selectable input ranges. DIP switch-selectable ranges extend from 50mV to 600V. Transducer output is proportional to a Zero-to-Full Scale (F.S.) input for the selected range. Packaging is a compact, easy-to-install, DIN rail-mount enclosure.

## FEATURES

5 YEAR WARRANTY

- DC voltage measurement
- Variety of output types
- Input, output and instrument power are electrically isolated
- DIN rail-mount enclosure

## APPLICATIONS

- Shunt isolation
- Solar string voltage monitoring
- Battery ground monitoring
- DC motor drive overvoltage or undervoltage condition monitoring

## SPECIFICATIONS

### INPUT

DIP Switch-Selectable Ranges (F.S.)
Millivolt Input ..... 50, 100, 150, 250, 500mVdc
Low-Voltage Input..... 5, 10, 15, 25, 50Vdc
High-Voltage Input..... 50, 100, 150, 250, 500, 600Vdc
**1000V option is available when used with DVT7-EXT extension module.**
Over-range (without damage)
500V and 600V Ranges ..... 850Vdc
All Other Ranges .....2 X F.S. Rating
Impedance
Millivolt Input.....≥1kΩ
Low-Voltage Input.....≥100kΩ
High-Voltage Input.....≥1MΩ
Frequency (all ranges) .....dc

### OUTPUT

Scaling .....0-F.S. Input = 0-F.S. Output
Loading ..... 0-±5V, 0-±10V .....≥2KΩ
4-20mA .....0-500Ω
Response (to 90%) .....200µs, Typical

**INSTRUMENT POWER** ..... 24V ±20%, dc/50-400Hz, ≤2W

**ACCURACY** (setpoint, linearity, offset)..... ±0.5% F.S.

### DIELECTRIC TEST

Input to Output/Instrument Power ..... 2500Vdc
Instrument Power to Output ..... 500Vdc

### TEMPERATURE & ENVIRONMENTAL

Temperature
Operating Range ..... -30°C to +60°C
Effect ..... ±0.5% F.S.
Relative Humidity .....0-95%, non-condensing

### PHYSICAL

Mounts on standard 35mm "Top Hat" rail, per EN50052/EN60715
Termination Wire Size ..... 12-30AWG
IP Rating ..... IP20
Weight.....0.25lbs.

## MODEL SELECTION

| MODEL SELECTION | OUTPUT | POLARITY |
|---|---|---|
| DVT7D | 0-±10V | bidirectional |
| DVT7E | 4-20mA | unidirectional |
| DVT7X5 | 0-±5V | bidirectional |

## SWITCH POSITIONS

To select the desired input range, set the switches "ON" as indicated in the chart below.

| INPUT RANGE | | SWITCH POSITIONS | | | | | |
|---|---|---|---|---|---|---|---|
| | | SW1 | SW2 | SW3 | SW4 | SW5 | SW6 |
| High-Voltage Input (Vdc) | 600 | off | off | ON | ON | ON | off |
| | 500 | off | ON | ON | ON | ON | off |
| | 250 | ON | off | off | ON | ON | off |
| | 150 | ON | ON | off | ON | ON | off |
| | 100 | ON | ON | ON | off | ON | off |
| | 50 | ON | ON | ON | ON | ON | off |
| Low-Voltage Input (Vdc) | 50 | off | ON | ON | ON | off | ON |
| | 25 | ON | off | off | ON | off | ON |
| | 15 | ON | ON | off | ON | off | ON |
| | 10 | ON | ON | ON | off | off | ON |
| | 5 | ON | ON | ON | ON | off | ON |
| Millivolt Input (mVdc) | 500 | off | ON | ON | ON | off | off |
| | 250 | ON | off | off | ON | off | off |
| | 150 | ON | ON | off | ON | off | off |
| | 100 | ON | ON | ON | off | off | off |
| | 50 | ON | ON | ON | ON | off | off |

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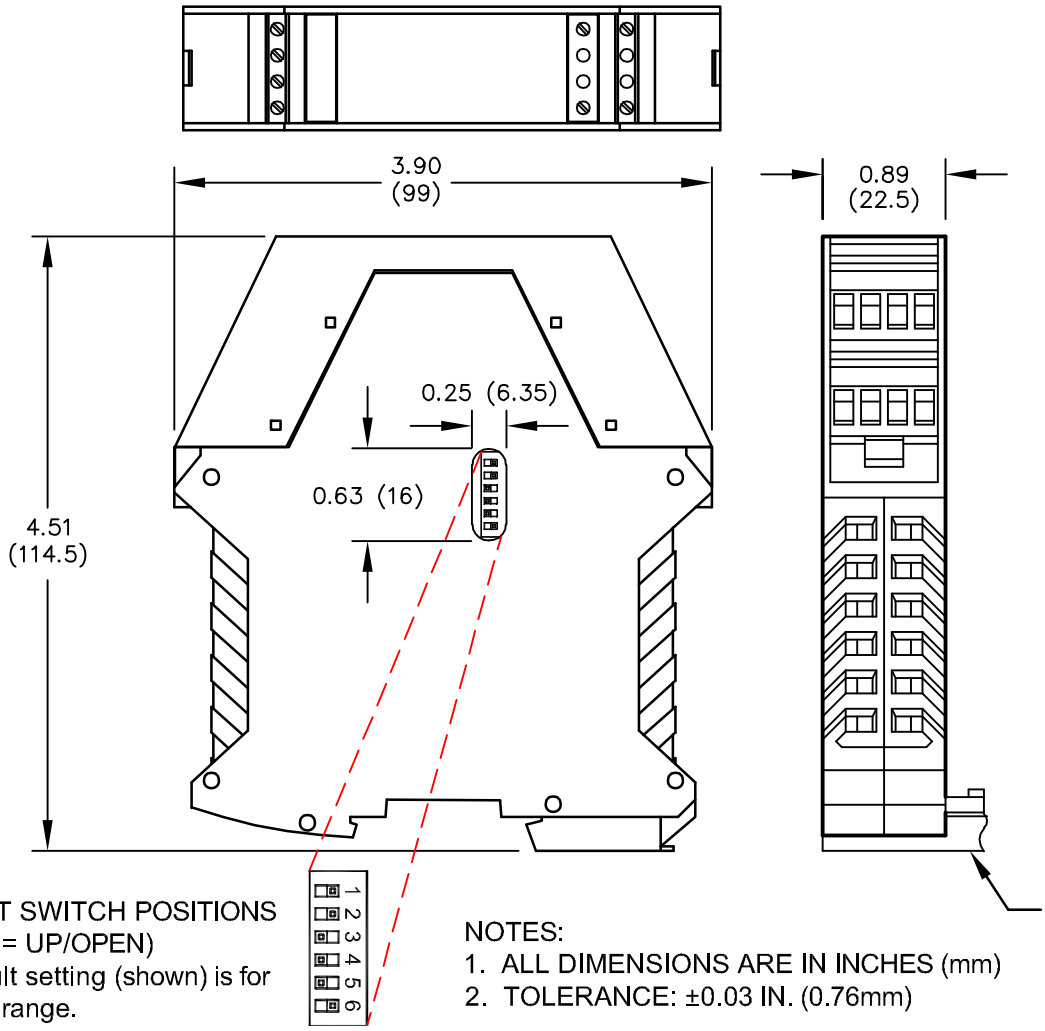
## DIMENSIONS



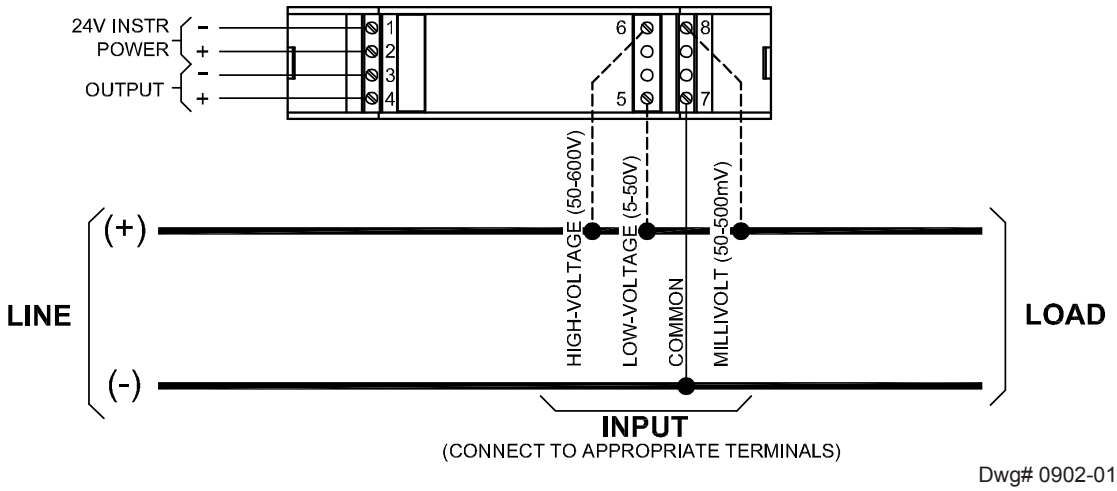

INPUT SWITCH POSITIONS
(OFF = UP/OPEN)
Default setting (shown) is for
600V range.

NOTES:
1. ALL DIMENSIONS ARE IN INCHES (mm)
2. TOLERANCE: ±0.03 IN. (0.76mm)

DIN RAIL 35mm x
7.5mm x 2m,
SLOTTED.

Dwg# 0902-01011-B Rev --

## CONNECTION DIAGRAM

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## INSTALLATION INSTRUCTIONS

1. Installation should be performed by qualified electricians only!
2. Make sure electrical service is disconnected before making any electrical connections.
3. Branch circuit protection is required to be provided in accordance with the National and Local codes of the inspection authority.
4. Route wires as required and secure to terminals per connection diagram on this sheet and on the unit.

## OPERATING INSTRUCTIONS

1. This unit is intended for indoor use at altitudes up to 2000 meters.
2. Transient overvoltages according to Installation Category II (overvoltage category), pollution Degree 2.
3. The output signal is intended to be "Not accessible to the user." To prevent contact with live circuits, the transducer is required to be mounted in an enclosure that requires the use of a tool for access.
4. If cleaning of the exterior surface is necessary, de-energize all services of supply (both measuring and instrument power circuits) and brush with a soft brush or blow off with low-pressure air. Use appropriate eye protection. Not suitable for hose-down cleaning.
5. Maximum operating temperature range is -30ºC to 60ºC.

## WARRANTY STATEMENT

Ohio Semitronics Inc. warrants this unit to be free of defects in material and workmanship for a period of five years from date of shipment. This unit must not be used in any manner other than as specified in this document.

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