

# OSI SINGLE-PHASE AC VOLTAGE TRANSDUCER MODEL MVT-

## DIN-RAIL-MOUNTED AC VOLTAGE TRANSDUCER 0.25% ACCURACY

### FEATURES

- Ruggedized Polyamide DIN-mount case.
- Slim profile allows maximum use of available space.
- Field-selectable analog outputs.
- Recessed terminals provide increased safety.

### APPLICATIONS

- Ideal for use in enclosures with dimensional constraints.
- Designed for industrial environments.
- OEM measurement systems.
- Designed for use with potential transformers.
- Easily integrated into control systems.



Transducer output is derived from the average absolute value of the input and calibrated as the RMS value of a sine wave input.

INPUT AC VOLTAGE	STANDARD OUTPUTS MODEL MVT-		
	0-1mAdc*	4-20mAdc	4-20mAdc**
0-150	150A	150E	150E2
0-300	300A	†300E	300E2
†0-600	†600A	†600E	†600E2

† 600V Models and MVT-300E are not included in UL Listing.

\* Models are self-powered from measured AC input line with **DIP-switch-selectable 0-5Vdc or 0-10Vdc output.**

\*\* Denotes 4-20mA loop-powered unit, requires 15-40Vdc instrument power.

"E" models require 85-135Vac instrument power.

Note: 600Vac models supplied with potential transformer (PT)

DIN-rail lengths available: Consult Factory

5 YEAR  
WARRANTY



### ORDERING INFORMATION

Example: 0-150Vac Input  
with 4-20mA Output.  
**MVT-150E**

## SPECIFICATIONS

#### INPUT

Voltage ..... See Table  
 Frequency Range ..... 48 to 65Hz; 60Hz Nominal  
 Burden ..... 150Vac models ..... 1.0VA  
 300Vac, 600Vac models ..... 2.0VA  
 Voltage Overload ..... F.S. rating

#### DIELECTRIC TEST

Input/Output ..... 1500Vac

#### INSTRUMENT POWER

"A" models ..... Self-powered  
 "E" models ..... 85-135Vac, 50/60Hz, 3.5VA  
 "E2" models ..... 15-40Vdc (Loop Powered)

#### PHYSICAL

Termination Wire Size ..... 22 to 12 AWG  
 Weight ..... 150Vac, 300Vac models ..... 0.25 lb  
 600Vac models with PT ..... 0.90 lb

#### OUTPUT

Response Time ..... (to 99% F.S.) ..... 400ms  
 Field-Adjustable Span ..... ±5%  
 Loading  
 "A" models set for 0-1mA output ..... 0-10kΩ  
 "A" models set for 0-5Vdc output ..... >5MΩ  
 "A" models set for 0-10Vdc output ..... >10MΩ  
 "E" models (4-20mAdc output) ..... 0-500Ω  
 "E2" models (4-20mAdc Loop Powered) ..... 0-600Ω

#### ACCURACY (@ 60Hz.) ..... ±0.25% F.S.

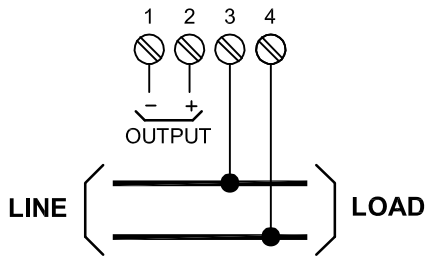
Includes effects of linearity and setpoint (10% to 100% F.S.)  
 Output Ripple ..... <1.0% F.S.

#### TEMPERATURE EFFECT

"A" and "E2" models ..... (-20°C to +65°C) ..... ±1.0%  
 "E" models ..... (-20°C to +40°C) ..... ±1.0%

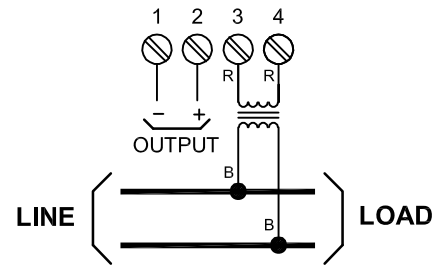
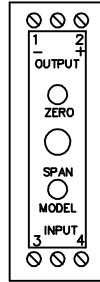
**OHIO SEMITRONICS, INC.** 4242 REYNOLDS DRIVE \* HILLIARD, OHIO \* 43026-1264  
 PHONE: (614) 777-1005 \* FAX: (614) 777-4511  
[WWW.OHIOSEMITRONICS.COM](http://WWW.OHIOSEMITRONICS.COM) \* 1-800-537-6732

## SELF-POWERED "A" MODELS



**150 & 300Vac MODELS**

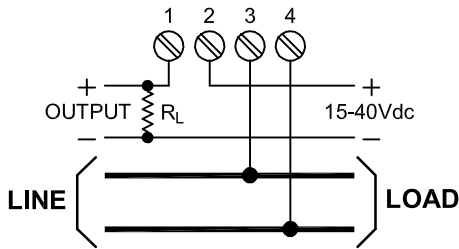
PTs: CONNECT AS SHOWN IN 600V DIAGRAM.



**600Vac MODELS**

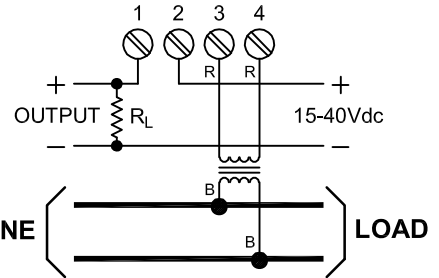
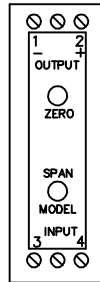
(PT SUPPLIED WITH UNIT)

## LOOP-POWERED "E2" MODELS



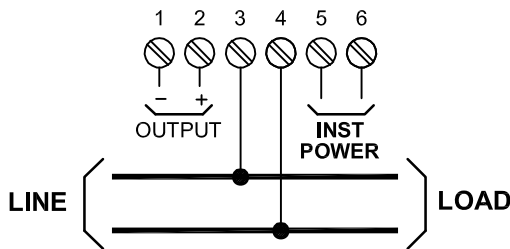
**150 & 300Vac MODELS**

PTs: CONNECT AS SHOWN IN 600V DIAGRAM.



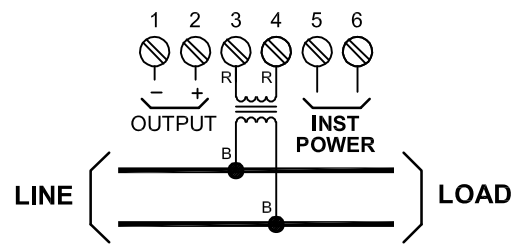
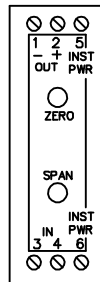
**600Vac MODELS** (PT SUPPLIED WITH UNIT)

## "E" MODELS



**150 & 300Vac MODELS**

\* AC INSTRUMENT POWER, TERMINALS 5, 6

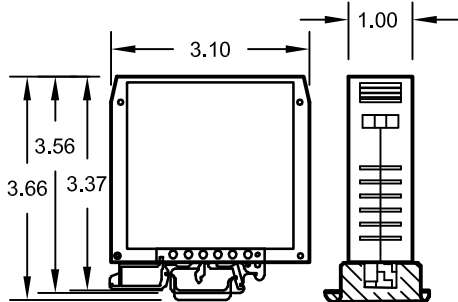


**600Vac MODELS** (PT SUPPLIED WITH UNIT)

\* AC INSTRUMENT POWER, TERMINALS 5, 6

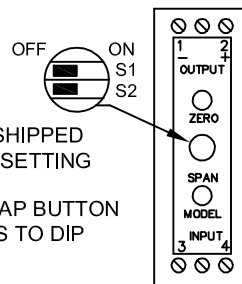
### Mounting Dimensions

UNIT CAN BE MOUNTED ON:  
STANDARD 35MM TOP-HAT DIN-RAIL (DIN3) PER EN 50022 OR STANDARD 32MM "G" DIN-RAIL (DIN1) PER EN 50035.



ALL DIMENSIONS IN INCHES.

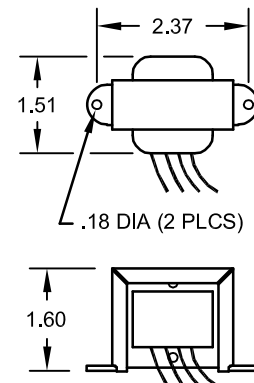
### Output Selections, "A" Models



UNITS ARE SHIPPED WITH 0-1mA SETTING  
REMOVE SNAP BUTTON FOR ACCESS TO DIP SWITCHES

OUTPUT	SWITCH POS. 1	SWITCH POS. 2
0-1mA	OFF	OFF
0-5V	ON	ON
0-10V	ON	OFF

### PT Dimensions



ALL DIMENSIONS IN INCHES.

0902-00862-B



## 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 (overvoltage category) II, 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 relative humidity 80 percent for temperatures up to 31°C decreasing linearly to 50 percent relative humidity at 40°C.
6. Maximum operating temperature range is -20°C to 65°C (-20°C to 40°C for "E" suffix models).

## 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.