

OSI SINGLE-PHASE AC VOLTAGE TRANSDUCER MODEL AVT-

DESCRIPTION

The AVT model transducers are designed for applications where UL, CUL, or CE listing is required. The AVT provides isolated outputs which are proportional to the applied voltage. Transducer output is derived from the average absolute value of the input and calibrated as the RMS value of a sine wave input. The AVT takes one voltage input and provides one isolated output.



Measuring
Equipment
7N93

**5 YEAR
WARRANTY**

MODEL SELECTION

INPUT AC VOLTS	STANDARD OUTPUTS MODEL AVT-				
	UL, CUL & CE				UL & CUL
	0-1mA _{dc} *	4-20mA _{dc} **	0-10V _{dc} *	0-5V _{dc} *	4-20mA _{dc}
0 - 90	090A	090E2	090C	090CX5	090E
0 - 150	150A	150E2	150C	150CX5	150E
0 - 300	300A	300E2	300C	300CX5	300E
0 - 600	600A	600E2	600C	600CX5	600E

* "A", "C", and "CX5" models are self-powered from measured line.

** "E2" models are 4-20mA loop-powered, and require 15-24Vdc instrument power.

Standard "E" models require 115Vac instrument power.
For optional 230Vac instrument power - add suffix "- 22".

400Hz models are available - consult factory for VT series,
which is not UL-, CUL- or CE-approved.

ORDERING INFORMATION

Example: 120Vac Input,
single-phase with 4-20mA Output
AVT-150E

SPECIFICATIONS

INPUT

Frequency Range.....50/60Hz
Burden..... 90V & 150V models 1VA
300V models2VA
600V models3VA
Overload..... 90V, 150V & 300V models F.S. rating
600V models575V

DIELECTRIC TEST

Input/Output/Case 2200Vac

INSTRUMENT POWER

"A", "C" and "CX5" models Self-powered
"E2" models 15-24Vdc
"E" models 115Vac, 50/60Hz, ±15%, 10VA
"-22" Option 230Vac, 50/60Hz, ±15%, 10VA

OUTPUT

Response 400ms
Loading
"A" models (0-1mA_{dc} output) 0-10kΩ
"E" models (4-20mA output) 0-1kΩ
"E2" models ... (4-20mA output @ 24Vdc)... 0-600Ω
"C" & "CX5" models (5V & 10V output) ≥10MΩ
Field Adjustable Cal. ±5%

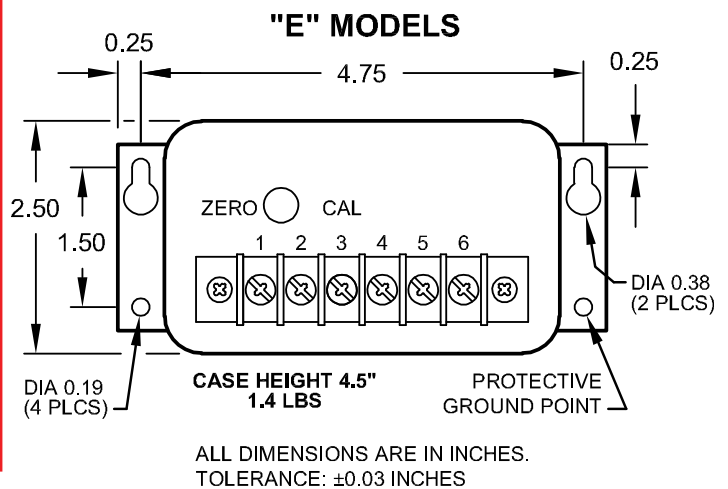
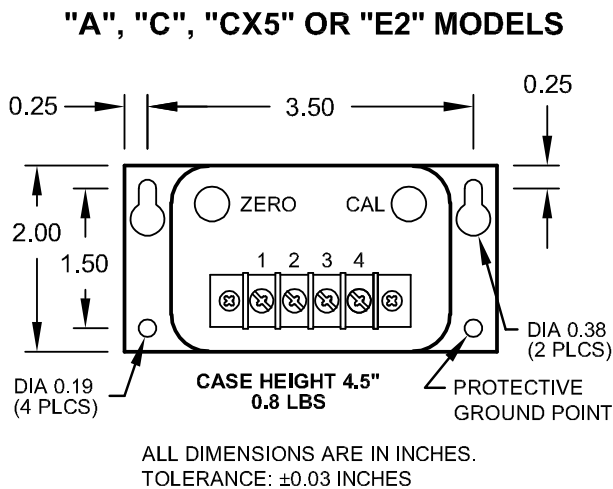
ACCURACY ±0.25% F.S. @ 60Hz
Includes effects of linearity (10-100%) and setpoint.
Output Ripple Less than 1.0% F.S.

TEMPERATURE

Range -20°C to 60°C
Effect ±1.0% Rdg.

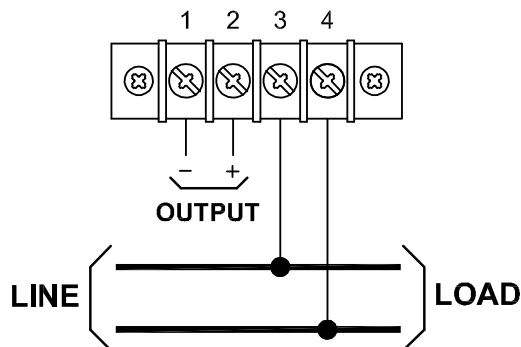
OHIO SEMITRONICS, INC. 4242 REYNOLDS DRIVE * HILLIARD, OHIO * 43026-1264
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CASE DIMENSIONS

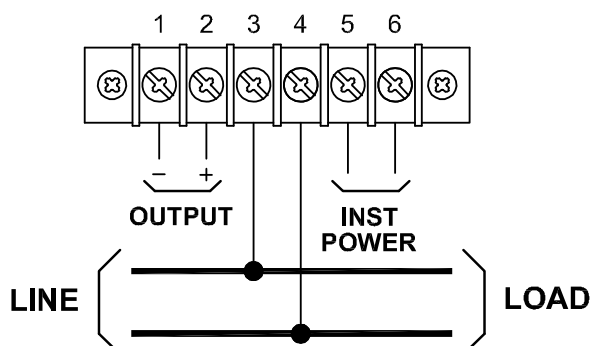


CONNECTION DIAGRAMS

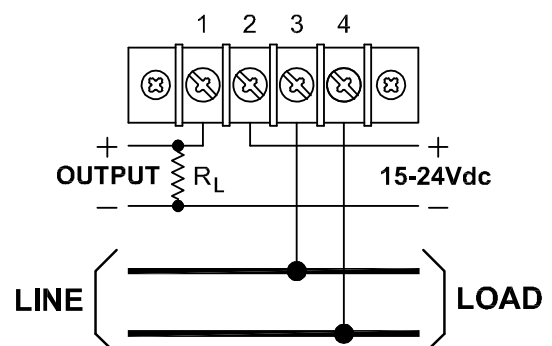
"A", "C" & "CX5" MODELS



"E" MODELS



"E2" MODELS



Dwg# 0902-00858-B Rev A

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.
5. Attach the Protective Ground Point (⊕) to earth ground by mounting to a grounded enclosure or by attaching a ground wire. Paint barrier on can must be broken by using an internal-tooth lock-washer or similar device.

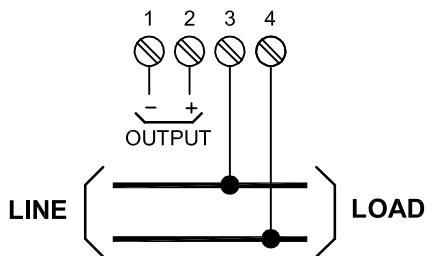
OPERATING INSTRUCTIONS

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 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 60°C.

WARRANTY STATEMENT

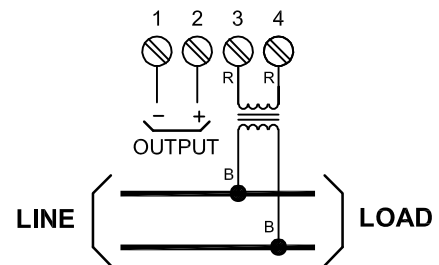
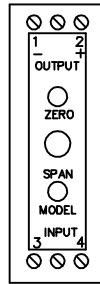
Ohio Semitronics Inc. warrants this unit to be free of defects in material and workmanship for a period of five years from date of shipment. This unit must not be used in any manner other than as specified in this document.

SELF-POWERED "A" MODELS



150 & 300Vac MODELS

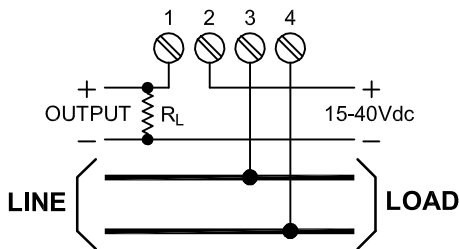
PTs: CONNECT AS SHOWN IN 600V DIAGRAM.



600Vac MODELS

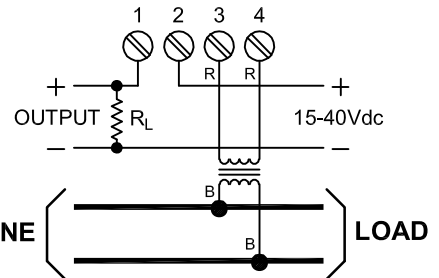
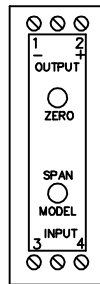
(PT SUPPLIED WITH UNIT)

LOOP-POWERED "E2" MODELS



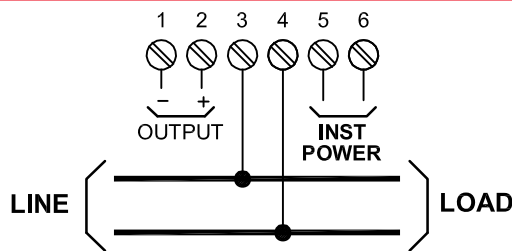
150 & 300Vac MODELS

PTs: CONNECT AS SHOWN IN 600V DIAGRAM.



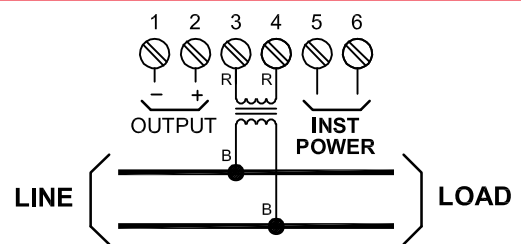
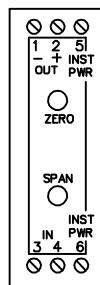
600Vac MODELS (PT SUPPLIED WITH UNIT)

"E" MODELS



150 & 300Vac MODELS

* AC INSTRUMENT POWER, TERMINALS 5, 6

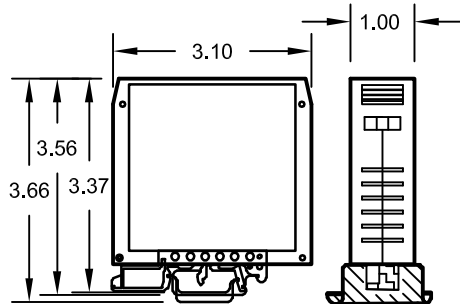


600Vac MODELS (PT SUPPLIED WITH UNIT)

* AC INSTRUMENT POWER, TERMINALS 5, 6

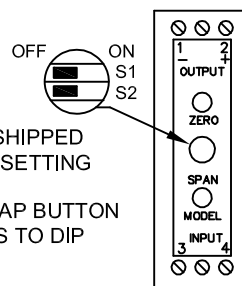
Mounting Dimensions

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

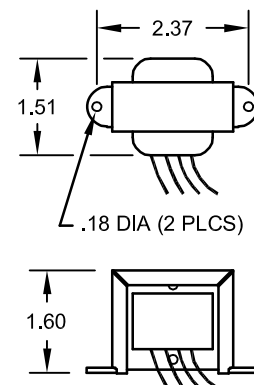


UNITS ARE SHIPPED WITH 0-1mA SETTING

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.

OSI SINGLE-PHASE AC RMS VOLTAGE TRANSDUCER MODEL AVTR-

ACCURATE TO 0.25% FULL-SCALE

FEATURES

- Accurate measurement of the **true RMS** value of input signals over a wide frequency range.

APPLICATIONS

- For use in applications where measurement of nonsinusoidal waveforms is required.

5 YEAR WARRANTY



MODEL SELECTION

INPUT AC VOLTS	STANDARD OUTPUTS MODEL AVTR-			
	0-1mA _{dc}	0-10V _{dc}	4-20mA _{dc}	0-5V _{dc}
0-150	001B	001D	001E	001X5
0-300	002B	002D	002E	002X5
0-600	004B	004D	004E	004X5

ORDERING INFORMATION

Example: Single-phase 120Vac
Input with 0-10V_{dc} Output.
AVTR-001D

All standard units require 115Vac instrument power.
Optional 230Vac instrument power - Add suffix "-22".

SPECIFICATIONS

INPUT

Voltage..... See Table
 Frequency Range 48 to 420 Hz
 Burden 150Vac Range < 0.15VA
 300Vac Range < 0.30VA
 600Vac Range < 0.60VA
 Overload 150Vac & 300Vac Models..... F.S. Rating
 600Vac Models 575V

DIELECTRIC TEST

Input/Output/Case 2200Vac

INSTRUMENT POWER

Standard 115Vac, ±15%, 50/60Hz, 3.5VA
 Option "-22" 230Vac, ±15%, 50/60Hz, 3.5VA

OUTPUT

Response Time (90%) 100ms
 Loading
 "B" models (0-1mA_{dc} output) 0-10kΩ
 "X5" & "D" models... (0-5, 0-10V_{dc} output) 2kΩ min.
 "E" models (4-20mA_{dc} output) 0-500Ω
 Field Adjustable Cal. ±10%

ACCURACY

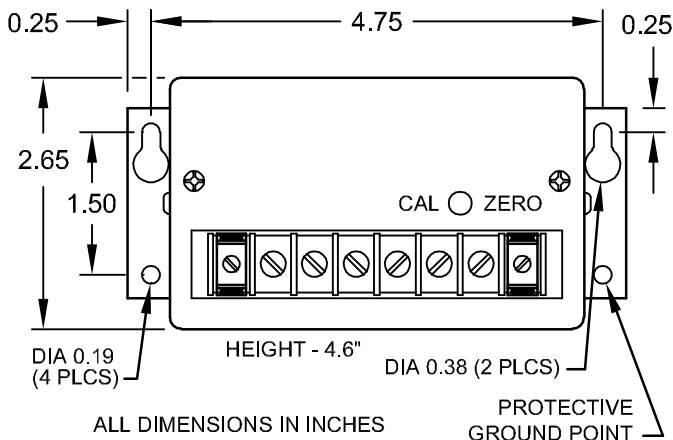
..... ±0.25% F.S. @ 60Hz
 Includes effects of linearity and setpoint.
 Typical ±0.5% over frequency range.

Output Ripple < 1.0% F.S.

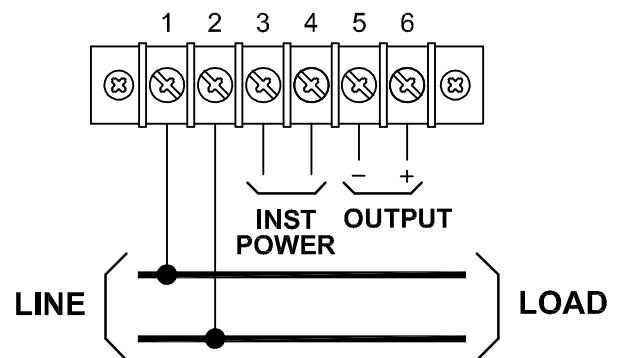
TEMPERATURE & PHYSICAL

Temperature Effect (-20°C to +60°C) ±1.0% Rdg.
 Net Weight 1.5 Lbs

CASE DIMENSIONS




CONNECTION DIAGRAM



Dwg# 0902-00867-B Rev A

INSTALLATION INSTRUCTIONS

1. Installation should be performed by qualified electricians only!
2. Verify that 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.
5. Attach the Protective Ground Point () to earth ground by mounting to a grounded enclosure or by attaching a ground wire. Paint barrier on can must be broken by using an internal-tooth lock-washer or similar device.

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 60°C.

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.

OSI SINGLE-PHASE AC VOLTAGE TRANSDUCER MODEL DVT-

DIN-RAIL-MOUNTED AC VOLTAGE TRANSDUCER

DESCRIPTION

The DVT model transducers provide an electrically-isolated output which is proportional to the applied voltage. Transducer output is derived from the arithmetic mean value of the input and calibrated as the RMS value of a sine wave input.

The transducer fulfills requirements and regulations regarding EMC and safety (IEC 1010) and was designed, manufactured and tested in accordance with ISO 9001.



FEATURES

- Voltage ranges up to 600V.
- Current and voltage outputs available.
- Compact DIN-rail packaging.

5 YEAR WARRANTY

APPLICATIONS

- Where voltage measurements are required.
- Where CE or CSA approvals are required.
- SCADA, process control or OEM applications.

MODEL SELECTION

INPUT AC VOLTS	STANDARD OUTPUTS MODEL DVT-				
	0-1mA _{dc} *	4-20mA _{dc}	4-20mA _{dc} **	0-10V _{dc}	0-5V _{dc}
0-90	090A	090E	090E2	090C	090CX5
0-150	120A	120E	120E2	120C	120CX5
0-300	240A	240E	240E2	240C	240CX5
0-600	600A	600E	600E2	600C	600CX5

ORDERING INFORMATION

Example: 120Vac Input
with 4-20mA Output.
DVT-120E

DIN Rail lengths available - Consult factory

* "A" models are self-powered from measured voltage line.

** "E2" loop-powered models require 12-32V_{dc} instr. power.

"E", "C" & "CX5" models require instrument power.

Optional 230Vac instrument power - add suffix "-22"

SPECIFICATIONS

INPUT

Voltage See Table
Frequency Range 50/60Hz
Burden <2VA
Overload 120% of F.S.

DIELECTRIC TEST

Input to Instrument Power/Output/Case 3700Vac
Instrument Power to Output/Case 3700Vac
Output to Case 490Vac

INSTRUMENT POWER

"A" models Self-powered
"E", "C" & "CX5" models 100-135Vac, 50/60Hz, 3VA
"E2" loop-powered models 12-32V_{dc}
"-22" Option 230Vac, 50/60Hz, ±15%

OUTPUT

Response Time (to 90% F.S.) 300ms
Loading
"A" models 0-15kΩ
"C" & "CX5" models 2.5kΩ minimum
"E" models 0-750Ω
"E2" models 0-600Ω @ 24V

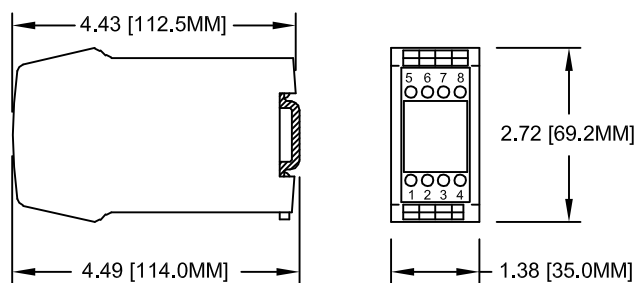
ACCURACY

..... ±0.5% F.S. @ 60Hz
Includes effects of linearity (20%-100%) and setpoint.
Output Ripple <1.0% p.p.

TEMPERATURE & PHYSICAL

Temperature Range -10°C to +55°C
Termination #10 AWG max.
Net Weight 0.6 lb

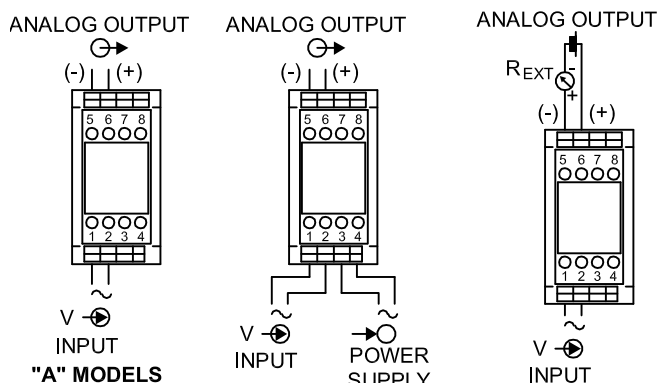
CASE DIMENSIONS



NOTES:
1. DIMENSIONS ARE IN INCHES [MM].
2. MOUNTED ON 35MM TOP-HAT DIN-RAIL.

Dwg# 0902-00866-B Rev --

CONNECTION DIAGRAMS



"A" MODELS "E", "C" & "CX5" MODELS "E2" MODELS

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OSI THREE-PHASE AC VOLTAGE TRANSDUCER MODEL 3AVT-

DESCRIPTION

The 3AVT model transducers are designed for applications where UL, CUL, or CE listing is required. The 3AVT provides isolated outputs which are proportional to the applied voltage. Transducer output is derived from the average absolute value of the input and calibrated as the RMS value of a sine wave input. The 3AVT takes three voltage inputs and provides three separate isolated outputs.



MODEL SELECTION

INPUT AC VOLTS	STANDARD OUTPUTS MODEL 3AVT-				
	UL, CUL & CE				UL & CUL
	0-1mAdc*	4-20mAdc**	0-10Vdc*	0-5Vdc*	4-20mAdc
0 - 90	090A	090E2	090C	090CX5	090E
0 - 150	150A	150E2	150C	150CX5	150E
0 - 300	300A	300E2	300C	300CX5	300E
0 - 600	600A	600E2	600C	600CX5	600E

* "A", "C", and "CX5" models are self-powered from measured line.

** "E2" models are 4-20mA loop-powered, and require 15-24Vdc instrument power.

Standard "E" models require 115Vac instrument power.

For optional 230Vac instrument power - add suffix "- 22".

For an output that represents an average of the three inputs add suffix "Y05"

400Hz models are available - consult factory (not UL, CUL listed)



ORDERING INFORMATION

Example: Three 120Vac Inputs,
with three 4-20mA Outputs
3AVT-150E



SPECIFICATIONS

INPUT

Frequency Range	50/60Hz
Burden	90V & 150V models 1VA
	300V models 2VA
	600V models 3VA
Overload	90V, 150V & 300V models F.S. rating
	600V models 575V

DIELECTRIC TEST

Input/Output/Case	2200Vac
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INSTRUMENT POWER

"A", "C" and "CX5" models	Self-powered
"E2" models	15-24Vdc
"E" models	115Vac, 50/60Hz, ±15%, 10VA
"-22" Option	230Vac, 50/60Hz, ±15%, 10VA

OUTPUT

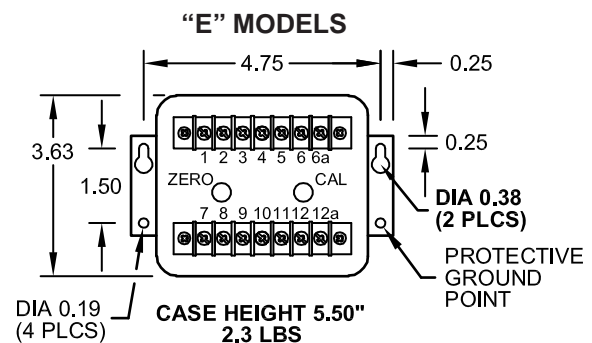
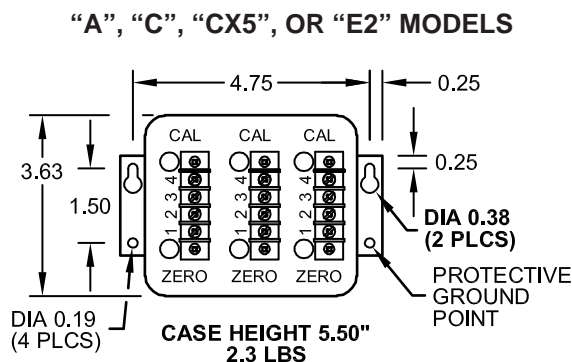
Response	400ms
Loading	
"A" models	(0-1mAdc) 0-10kΩ
"E" models	(4-20mAdc) 0-1kΩ
"E2" models	(4-20mAdc @ 24Vdc) 0-600Ω
"C", "CX5" models	(0-5, 0-10Vdc) ≥10MΩ
Field Adjustable Cal.	±5%

ACCURACY	±0.25% F.S. @60Hz
	Includes effects of linearity (10-100%) and setpoint.
Output Ripple	Less than 1.0% F.S.

TEMPERATURE

Temperature Range	-20°C to 60°C
Temperature Effect	±1.0% Rdg.

CASE DIMENSIONS



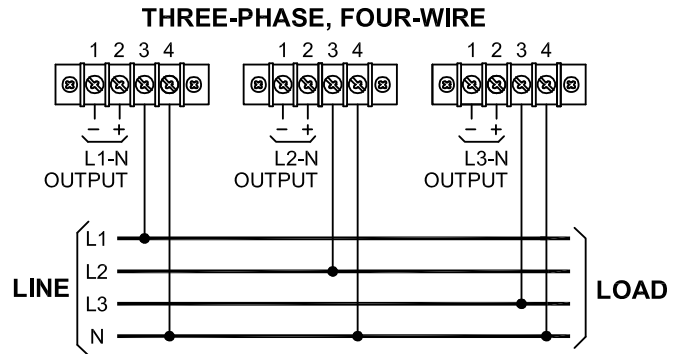
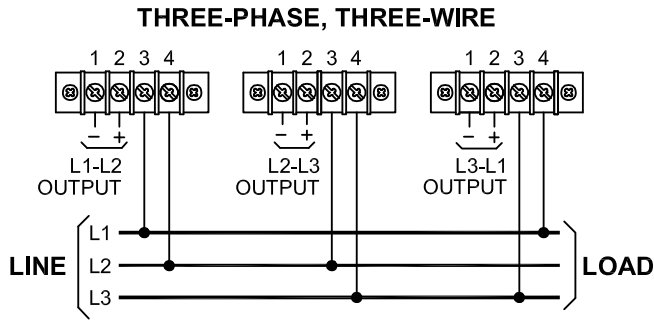
All dimensions in inches

Dwg# 0902-00880-B Rev --

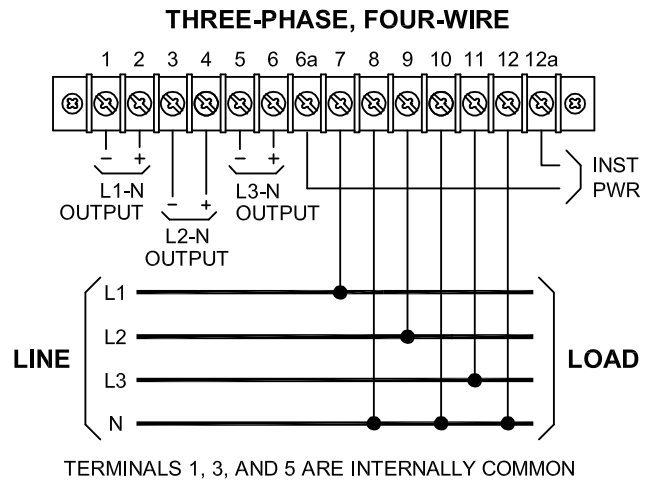
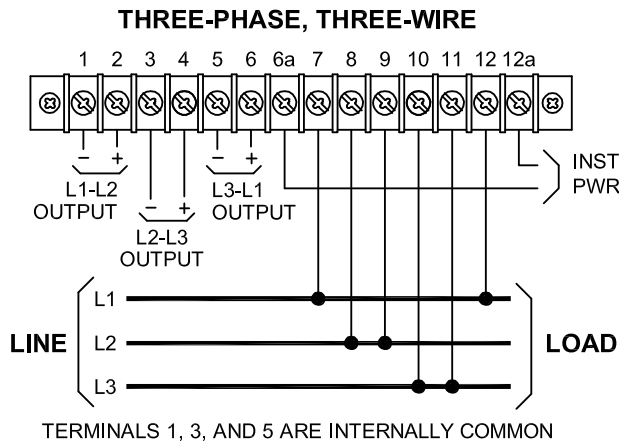
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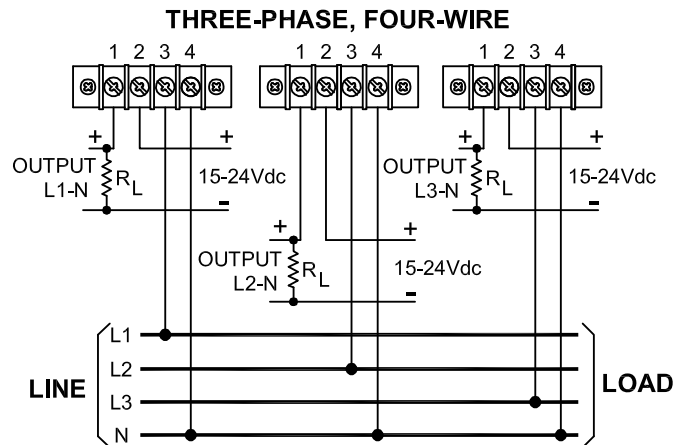
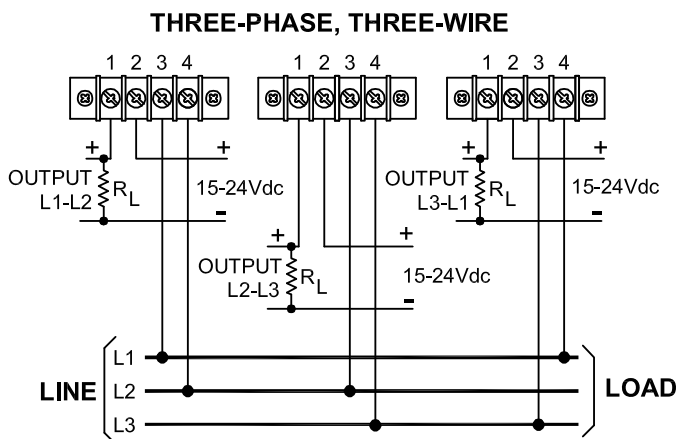
"A", "C" & "CX5" MODELS



"E" MODELS




"E2" MODELS



Dwg# 0902-00880-B Rev --

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.
5. Attach the Protective Ground Point () to earth ground by mounting to a grounded enclosure or by attaching a ground wire. Paint barrier on can must be broken by using an internal-tooth lock-washer or similar device.

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 60°C.

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.