

# OSI THREE-PHASE AC CURRENT TRANSDUCER MODEL 3ACT-

## DESCRIPTION

The model 3ACT is a three-phase UL-, CUL-, and CE-approved ac current transducer which provides three isolated dc outputs which are directly proportional to the three current inputs.

The output is derived from the average absolute value of the input and is calibrated in terms of the RMS value of the input sine wave.

Models with full-scale input ranges of 25A and higher use external sensors (CTs).

With the exception of models which provide 4-20mA outputs, all models are self-powered from the measured line.

**5 YEAR WARRANTY**

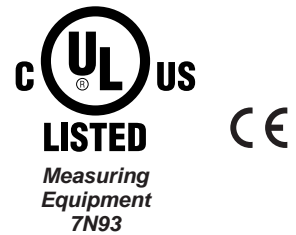
## FEATURES

- Accurate, reliable current measurement
- Rugged metal construction
- Designed to withstand motor start-up transients
- Average reading calibrated RMS
- Low Cost

## APPLICATIONS

- Designed for use in applications which require inexpensive current measurement.
- Designed for use in applications where UL, CUL, or CE compliance is required.

INPUTS AC AMPS	SENSOR SIZE	STANDARD OUTPUT MODELS 3ACT-				
		UL, CUL & CE				UL & CUL
		0-1mAdc*	4-20mAdc**	0-10Vdc*	0-5Vdc*	4-20mA
0 - 1	INT	001A	001E2	001C	001CX5	001E
0 - 5	INT	005A	005E2	005C	005CX5	005E
0 - 10	INT	010A	010E2	010C	010CX5	010E
0 - 20	INT	020A	020E2	020C	020CX5	020E
0 - 25 †	W	025A	025E2	025C	025CX5	025E
0 - 50	W	050A	050E2	050C	050CX5	050E
0 - 100	W	100A	100E2	100C	100CX5	100E
0 - 200	W	200A	200E2	200C	200CX5	200E
0 - 300	W	300A	300E2	300C	300CX5	300E
0 - 400	X	400A	400E2	400C	400CX5	400E
0 - 500	X	500A	500E2	500C	500CX5	500E
0 - 600	X	600A	600E2	600C	600CX5	600E
0 - 800	X	800A	800E2	800C	800CX5	800E
0 - 1000	Y	1000A	1000E2	1000C	1000CX5	1000E
0 - 1500	Y	1500A	1500E2	1500C	1500CX5	1500E



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

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

† Indicates two turns required through transformer window.

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 200Aac Inputs with  
Three 4-20mAdc Outputs.

**3ACT-200E**

## SPECIFICATIONS

### INPUT

Frequency Range ..... 50/60Hz  
 Burden ..... 1.0VA F.S. (each input)  
 Current Overload (continuous)  
     20A model ..... 1.25 X F.S. rating  
     All other models ..... 2 X F.S. rating

### DIELECTRIC TEST

Input/Output/Case ..... 2200Vac

### INSTRUMENT POWER

"E" models....Standard..... 115Vac, 50/60Hz, ±15%, 10VA  
     "-22" option ....230Vac, 50/60Hz, ±15%, 10VA  
 "E2" models..... 15-24Vdc loop powered  
 All other models ..... Self-powered

### OUTPUT

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

### ACCURACY

Internal sensor ..... ±0.25% F.S. @ 60Hz  
 External sensor ..... ±0.5% F.S. @ 60Hz  
     Includes effects of linearity and setpoint  
 Output Ripple ..... <1.0% F.S.

### TEMPERATURE

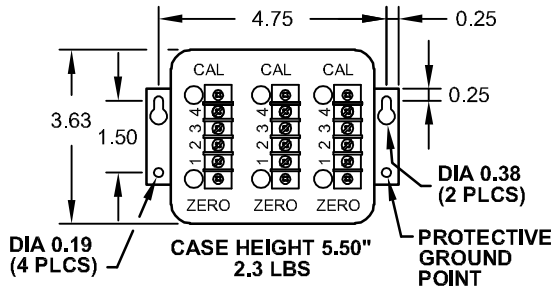
Operating Range ..... -20°C to +60°C  
 Effect ..... ±1.0% Rdg.

# OHIO SEMITRONICS, INC.

4242 REYNOLDS DRIVE \* HILLIARD, OHIO \* 43026-1264  
 PHONE: (614) 777-1005 \* FAX: (614) 777-4511  
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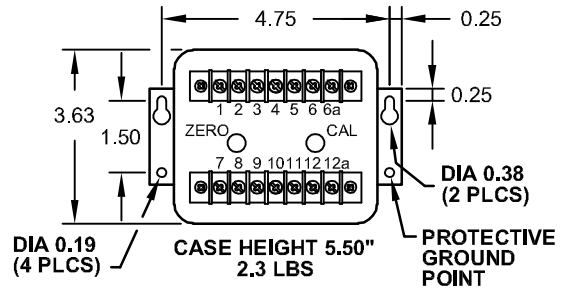
# OSI CASE DIMENSIONS & CONNECTION DIAGRAMS MODEL 3ACT-

MODELS WITH A, C, CX5 OR E2 OPTION

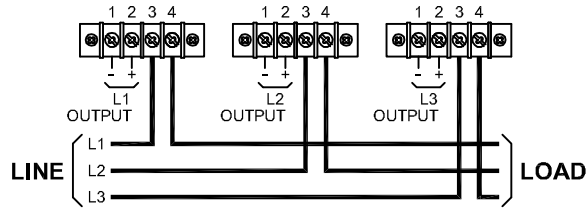


ALL DIMENSIONS ARE IN INCHES.

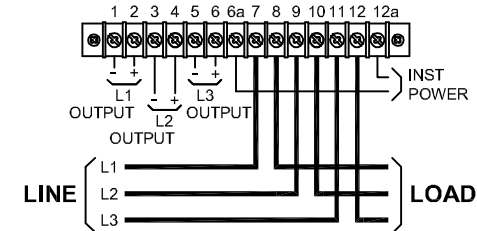
MODELS WITH E OPTION



MODELS WITH A, C & CX5 OPTIONS - INTERNAL SENSOR

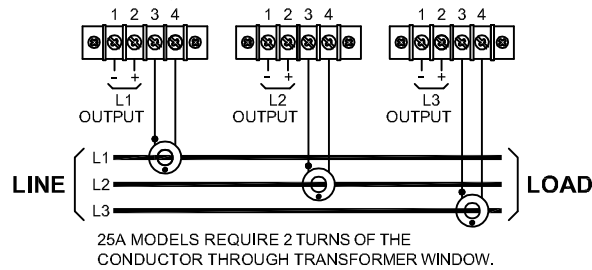


MODELS WITH E OPTION - INTERNAL SENSOR

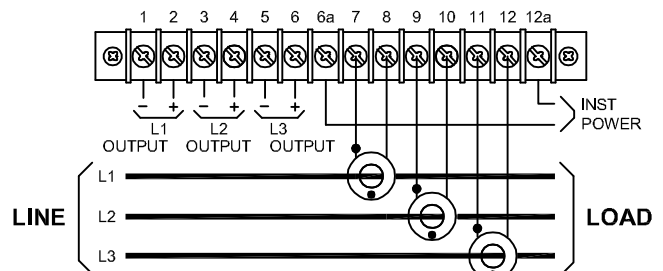


TERMINALS 1, 3, AND 5 ARE INTERNALLY COMMON  
AC INSTRUMENT POWER ON TERMINALS 6A AND 12A

MODELS WITH A, C & CX5 OPTIONS - EXTERNAL SENSOR

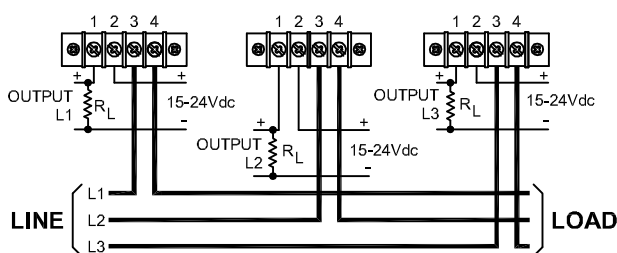


MODELS WITH E OPTION - EXTERNAL SENSOR

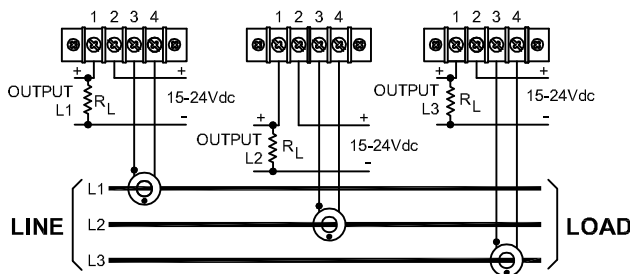


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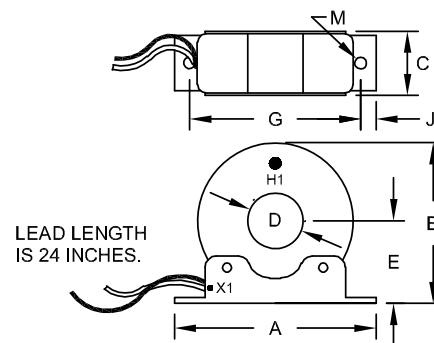
MODELS WITH E2 OPTION - INTERNAL SENSOR



MODELS WITH E2 OPTION - EXTERNAL SENSOR



## EXTERNAL SENSOR DIMENSIONS



SENS. SIZE	SENSOR DIMENSIONS (INCHES)							WT. LBS.	
	A	B	C	D	E	G	J		
W	4.50	3.7	1.25	1.25	1.94	3.88	0.34	0.27 x 0.44	1.43
X	6.50	4.7	1.25	2.50	2.46	5.75	0.39	0.28	1.61
Y	6.50	4.7	1.25	3.00	2.46	5.75	0.39	0.28	1.10

For model "Y05", output connections are at terminals 1 & 2

Dwg# 0902-00411-B Rev A

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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.
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.