

# OSI SINGLE-PHASE AC CURRENT TRANSDUCER MODEL MCT5-

## DIN-RAIL-MOUNTED AC CURRENT 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 **OSI** current 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 AMPS	STANDARD OUTPUTS MODEL MCT5-		
	0-1mAdc*	4-20mAdc	4-20mAdc**
0 - 1.0	001A	001E	001E2
0 - 5.0	005A	005E	005E2

\* Models are self-powered from measured AC input line with **DIP-switch-selectable 0-1mA, 0-5Vdc, or 0-10Vdc output.**

\*\* Denotes 4-20mA loop-powered unit, requires 15-40Vdc instrument power.  
Standard 4-20mA models require 85-135 Vac instrument power.

**5 YEAR  
WARRANTY**



**UL** US  
LISTED  
Measuring  
Equipment  
7N93

### ORDERING INFORMATION

Example: 0-5A Input with 4-20mA Output.  
**MCT5-005E**

## SPECIFICATIONS

### INPUT

Current ..... See Table  
Frequency Range..... 48 to 65Hz; 60Hz Nom.  
Burden..... 1-Amp models.....0.05VA  
5-Amp models.....0.175VA

#### Current Overload

Continuous..... 2 X F.S. rating  
10s/hr ..... 10 X F.S. rating

### DIELECTRIC TEST

Input/Output ..... 1500Vac

### OUTPUT

Response .....(to 99%)..... 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.....(4-20mA) .....0-500Ω  
"E2" models...(Loop Powered 4-20mA) .....0-600Ω

### INSTRUMENT POWER

"E" models.... (4-20mA)..... 85-135Vac, 50-60Hz, 3VA  
"E2" models.. (Loop-Powered 4-20mA) ..... 15-40Vdc  
"A" models..... Self-Powered

### ACCURACY

Accuracy .....±0.25% F.S.@ 60Hz  
Includes effects of linearity and setpoint.  
Output Ripple .....<1.0% F.S.

### TEMPERATURE

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

### PHYSICAL

Termination..... wire size 22AWG to 12AWG  
Net Weight..... 0.4 lb

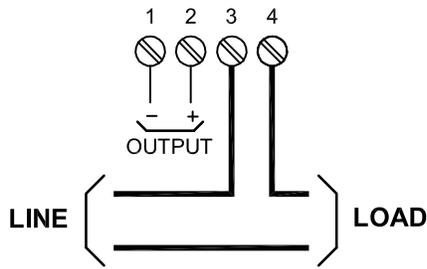
**CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON NEXT PAGE**

(Consult factory for availability of DIN-rail)

**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

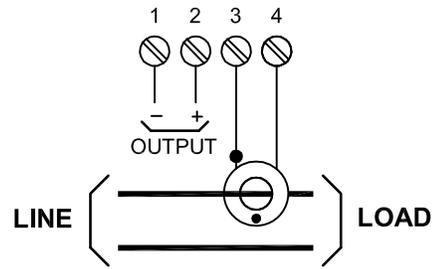
# OSI DIMENSIONS AND CONNECTION DIAGRAMS MODEL MCT5-

## DIRECT CONNECTION

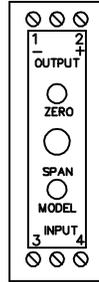


"A" MODELS (SELF-POWERED)

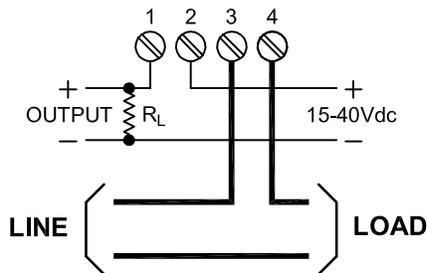
## EXTERNAL CURRENT TRANSFORMERS



"A" MODELS (SELF-POWERED)

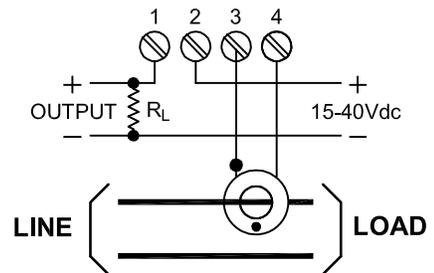


## DIRECT CONNECTION

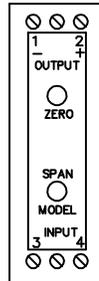


"E2" MODELS (LOOP-POWERED)

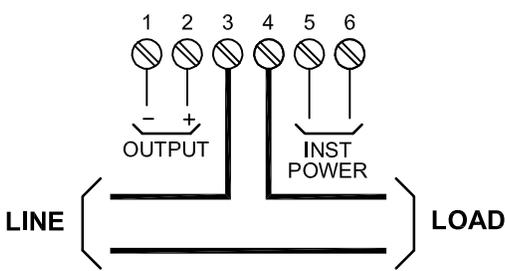
## EXTERNAL CURRENT TRANSFORMERS



"E2" MODELS (LOOP-POWERED)

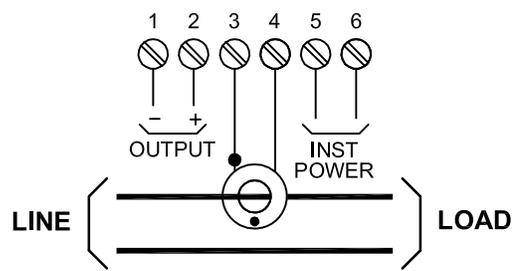


## DIRECT CONNECTION

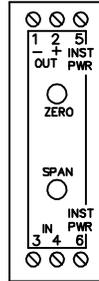


"E" MODELS (4-20mA OUTPUT)

## EXTERNAL CURRENT TRANSFORMERS

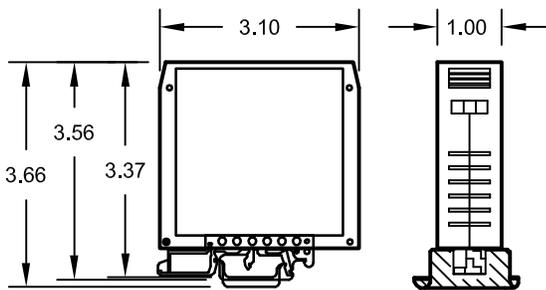


"E" MODELS (4-20mA OUTPUT)



## CASE DIMENSIONS

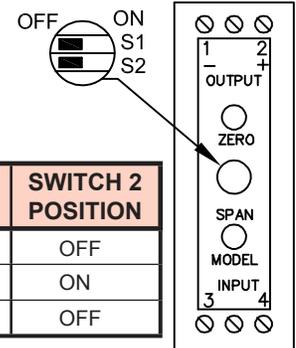
UNIT CAN BE MOUNTED ON:  
STANDARD 35MM TOP-HAT DIN-RAIL  
(DIN3) PER EN 50022 OR STANDARD  
32MM "G" DIN-RAIL (DIN1) PER EN 50035.



ALL DIMENSIONS IN INCHES.

## "A" MODEL OUTPUT SELECTION

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



OUTPUT REQUIRED	SWITCH 1 POSITION	SWITCH 2 POSITION
0-1mA	OFF	OFF
0-5V	ON	ON
0-10V	ON	OFF

Dwg# 0902-00572-B Rev B

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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 (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.