

# OSI AC CURRENT TRANSFORMER/TRANSDUCER MODEL CTRS-

## SPLIT-CORE

### FEATURES

- Accurate measurement of the **true RMS** value of input signals.
- Split-core current sensors for easy installation.
- Current transformers contain open-circuit protection.
- Signal conditioners and current sensors are calibrated as sets and provide a choice of analog outputs. (0-5Vdc, 0-10Vdc, 0-1mAdc or 4-20mAdc)
- Current measurement ranges up to 40kAac.
- Flexible Rogowski coils (air-core CTs) are used for current measurement ranges of 1kAac and larger.
- Rogowski coil models use CE-compliant sensors.

### APPLICATIONS

- For use in existing applications requiring installation with split-core sensors.
- Designed to withstand motor start-up currents.
- Easy installation in tight areas.

**5 YEAR WARRANTY**



## MODEL SELECTION

SENSOR	INPUTS AC AMPS	STANDARD MODELS CTRS-			
		0-1mAdc	4-20mAdc	0-10Vdc	0-5Vdc
CURRENT TRANSFORMER	0 to 5	005B	005E	005D	005X5
	0 to 10	010B	010E	010D	010X5
	0 to 15	015B	015E	015D	015X5
	0 to 20	020B	020E	020D	020X5
	0 to 25	025B	025E	025D	025X5
	0 to 50	050B	050E	050D	050X5
	0 to 100	101B	101E	101D	101X5
	0 to 200	201B	201E	201D	201X5
	0 to 300	301B	301E	301D	301X5
	0 to 400	401B	401E	401D	401X5
	0 to 500	501B	501E	501D	501X5
0 to 1000	102B	102E	102D	102X5	
ROGOSKI COIL	0 to 1k	102RB	102RE	102RD	102RX5
	0 to 2k	202RB	202RE	202RD	202RX5
	0 to 5k	502RB	502RE	502RD	502RX5
	0 to 10k	103RB	103RE	103RD	103RX5
	0 to 15k	153RB	153RE	153RD	153RX5
	0 to 20k	203RB	203RE	203RD	203RX5
	0 to 25k	253RB	253RE	253RD	253RX5
	0 to 30k	303RB	303RE	303RD	303RX5
	0 to 40k	403RB	403RE	403RD	403RX5

5A to 1000A models use current transformers.  
1kA to 40kA models use Rogowski coils.

### AVAILABLE OPTIONS (add in order shown):

230Vac instrument Power - Add suffix "-22"

Rogowski coil size:

COIL INSIDE DIAMETER	COIL LENGTH	MODEL
6.5in. (16.5cm)	23.6in. (60cm)	(standard)
10.5in. (26.7cm)	35.4in. (90cm)	Add suffix "-1"
14.0in. (35.4cm)	47.2in. (120cm)	Add suffix "-2"
21.5in. (54.6cm)	70.9in. (180cm)	Add suffix "-3"

Additional current ranges, sensor sizes and RoHS-compliant models are available - Consult factory.

### ORDERING INFORMATION

Example: 10kAac Input with 0-10Vdc Output, 230Vac instrument power & 10.5-inch diameter Rogowski coil

**CTRS-103RD-22-1**

## SPECIFICATIONS

### INPUT

Current Range ..... See Table  
Over range ..... (w/o damage) ..... 2 X F.S. (cont.)  
5 X for 10s transient  
10 X for 1s transient  
Frequency Range ..... Non-"R" models ..... 50-60Hz  
"R" models ..... (see Accuracy)

### DIELECTRIC TEST

Input/Output/Case/Instrument Power ..... 1500Vac

### INSTRUMENT POWER

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

### OUTPUT

Response Time (to 90%) .... Non-"R" models ..... 100ms  
"R" models ..... 300ms

### Loading

"B" models ..... 0-1mAdc ..... 0-10kΩ  
"D", "X5" models ..... 0-10Vdc, 0-5Vdc ..... 2kΩ min.  
"E" models ..... 4-20mAdc ..... 0-500Ω  
Field-adjustable Calibration Range ..... ±10%, approx.

### ACCURACY (linearity and set point)

#### Current Transformer (Non-"R") Models

5A to 10A models ..... ±0.5% F.S. @ 60Hz  
15A to 1000A models ..... ±0.25% F.S. @ 60Hz

#### Rogowski Coil ("R") Models

With conductor centered in window... ±1.0% F.S. @ 60Hz  
Linearity ..... ±0.25% F.S.

#### Set point variation with frequency

10Hz to 20Hz ..... ±2.0% F.S.  
20Hz to 2kHz ..... ±1.0% F.S.  
2kHz to 5kHz ..... ±3.0% F.S.  
5kHz to 7kHz ..... ±7.0% F.S.  
7kHz to 20kHz ..... ±30.0% F.S.

Position Sensitivity ..... ±2.0% F.S.

Output Ripple (all models) ..... <1.0% F.S.

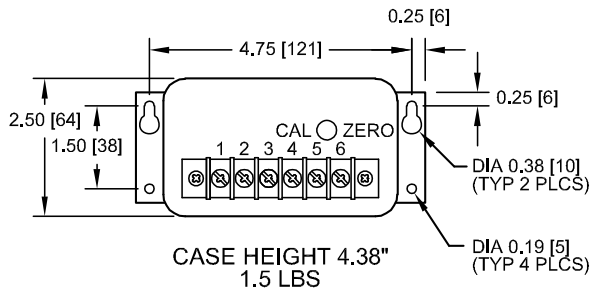
### PHYSICAL & ENVIRONMENTAL

Temperature Effect (-20°C to 60°C) ... ±1.0% Rdg., ±0.1% F.S.  
Weight (not including sensor) ..... 1.5 lbs

# OHIO SEMITRONICS, INC.

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

**CASE DIMENSIONS**

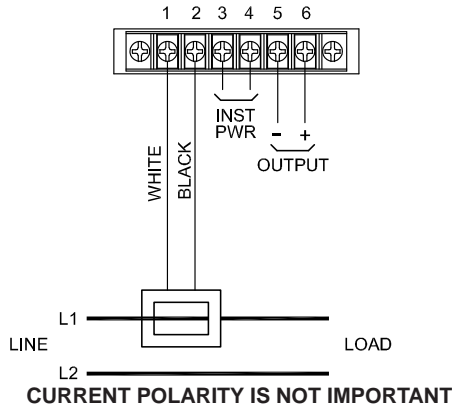


DIMENSIONS ARE IN INCHES [mm].  
TOLERANCE = ±0.03 IN [±0.76mm]  
UNLESS OTHERWISE SPECIFIED

**CONNECTION DIAGRAM**

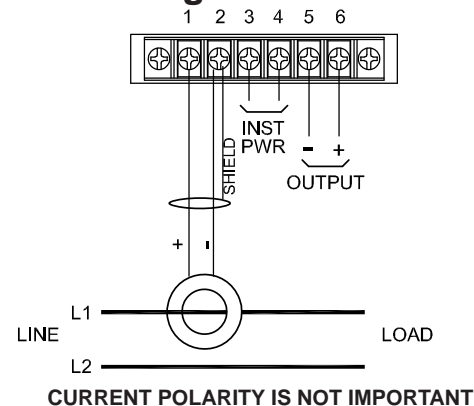
**Current Transformer**

Dwg# 0902-00854-B Rev-C



CURRENT POLARITY IS NOT IMPORTANT

**Rogowski Coil**

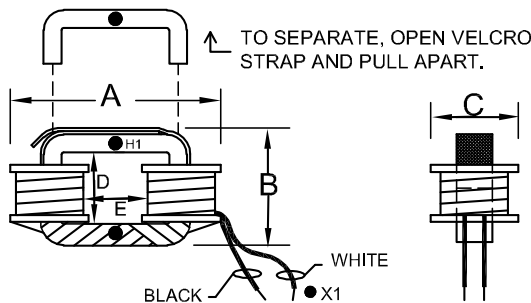


CURRENT POLARITY IS NOT IMPORTANT

**SENSOR DIMENSIONS**

**Current Transformer**

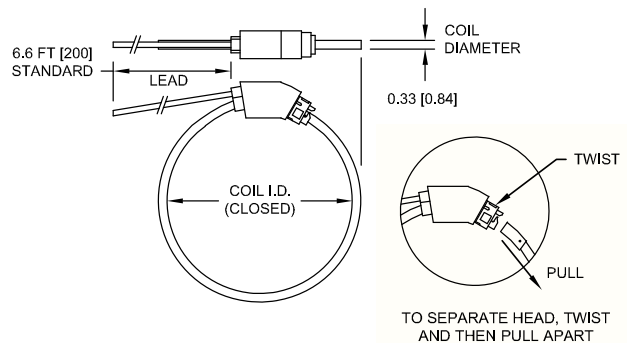
5A to 1000A



Dwg# 0902-00854-B Rev-C

**Rogowski Coil**

1kA to 40kA



INPUTS AC AMPS	SENSOR SIZE	DIMENSIONS (in inches)					WT. LBS.
		A	B	C	D	E	
5 - 100	A	2.80	2.00	1.12	1.09	1.09	0.4
200 - 500	B	3.85	3.80	1.30	2.40	1.25	0.8
1000	C	5.50	4.90	1.60	3.15	3.20	1.5

Lead Length..... 72", 16 gauge, White (X1) & Black

(Refer to CTY spec sheet for additional details.)

COIL INSIDE DIAMETER	COIL LENGTH	MODEL
6.5in. (16.5cm)	23.6in. (60cm)	(standard)
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Lead Length..... approx. 6.6ft (2m) standard  
Coil Diameter..... 0.33 in. ±0.008 in. (8.4 ±0.2mm)

(Refer to MFC150 spec sheet for additional details.)

Consult factory for special current ranges, sensor sizes and RoHS-compliant models.