



# CR4311 AC Current-to-Voltage Transducer, 0-10Vdc output

The **CR431** series, Current-to-Voltage Transducer produces a 0-5 Vdc or 0-10 Vdc output signal that is directly proportional to the input AC current. The output signal is average-sensing, calibrated for RMS.

This transducer is used with process control and industrial instrumentation equipment. The DC output signal can be connected directly to a high impedance analog input of a computer or PLC without additional signal conditioning.

The series will measure up to 200% of full scale on a short time basis (1 minute or less) and 150% on a continuous basis at its rated accuracy.

To protect external circuits from damage caused by short circuits or motor inrush currents.



## Features

- Permanently calibrated
- Output overload protected
- Fully isolated
- 10 different ranges
- Self-powered, requires no external power source



## Specifications

### Accuracy:

Depends on the range and load resistance, see Part Numbers table

### Ripple:

1% Max. peak ripple on output

### Calibrated Signal Out:

0-5 Vdc for CR4310

0-10 Vdc for CR4311

### Response Time:

250 ms max., 10-90% FS

### Max. Signal Out:

16 Vdc for CR4310

33 Vdc for CR4311

### Frequency:

50/60 Hz

### Continuous Thermal Current Rating Factor:

2.50 @ 30°C

### Short Time Thermal Current Rating Factor:

60 x Full Scale (For 1 Second)

### Insulation Class:

600 V, BIL 10 kV Full Wave

### Operating Temperature Range:

-30°C to +60°C

### Storage Temperature Range:

-55°C to +85 °C

### Shipping Weight:

1.5 pounds (.68 kg.)

## Part Numbers

### CR431□ - □ □ □ CURRENT TO VOLTAGE TRANSDUCER

|     | Range in AC Amps | Accuracy % FS * |
|-----|------------------|-----------------|
| 5   | 0-5              | 1.0             |
| 10  | 0-10             | 0.75            |
| 15  | 0-15             | 0.75            |
| 20  | 0-20             | 0.5             |
| 30  | 0-30             | 0.5             |
| 50  | 0-50             | 0.5             |
| 75  | 0-75             | 0.5             |
| 100 | 0-100            | 0.5             |
| 150 | 0-150            | 0.5             |
| 200 | 0-200            | 0.5             |

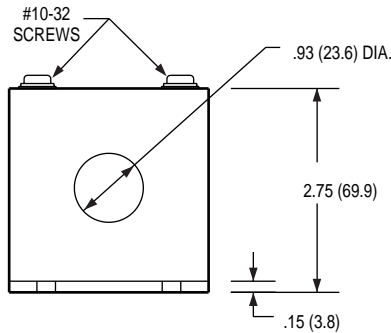
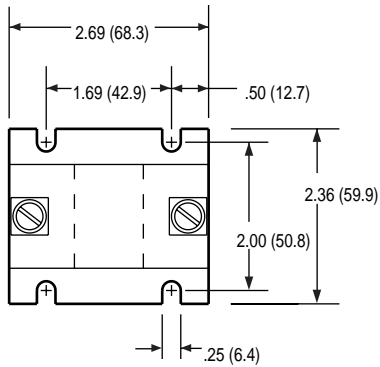
|   |              |
|---|--------------|
| 0 | 0-5 Vdc Out  |
| 1 | 0-10 Vdc Out |

\* For total load resistance of:  
1.0 megohm or higher for CR4310  
150 K ohm or higher for CR4311

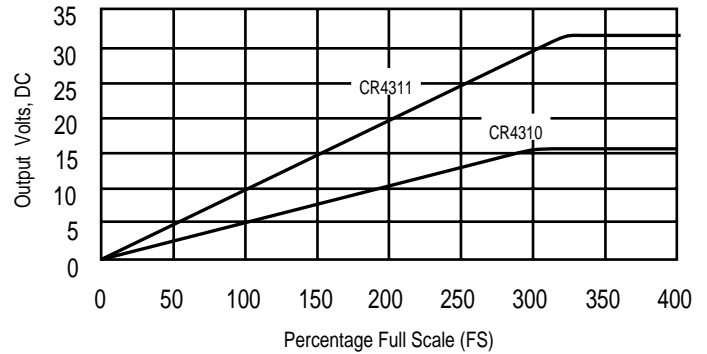
WHERE-TO-BUY <http://WWW.JDGASTORE.COM>

- Transducer Selection Guide: [transducer.html](http://transducer.html)
- Application Sheet: [pdf/ancr4310.pdf](http://pdf/ancr4310.pdf), [pdf/ancr4310-2](http://pdf/ancr4310-2)
- Pricing: [pricing/4310.html](http://pricing/4310.html)
- External Current Transformers: [cts.html](http://cts.html)

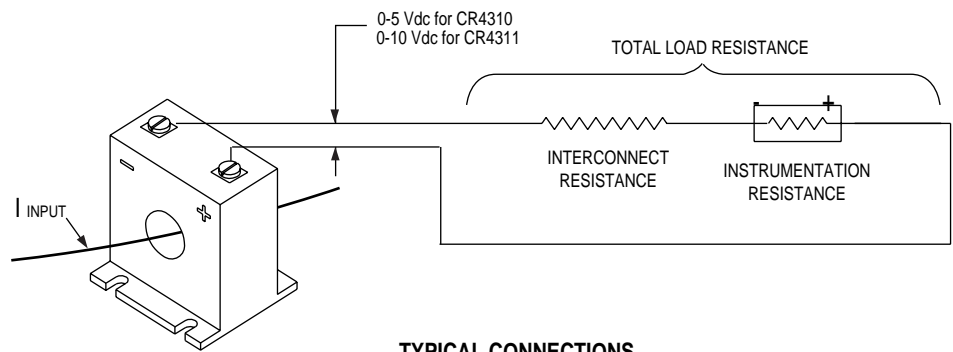
Application Notes



OUTLINE DRAWING



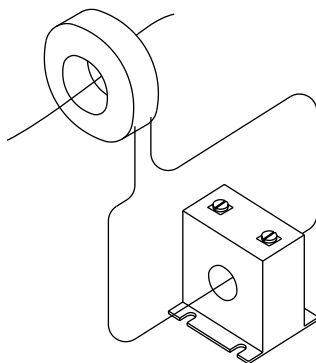
CONTROL VOLTAGE OUT vs FULL-SCALE INPUT CURRENT



TYPICAL CONNECTIONS

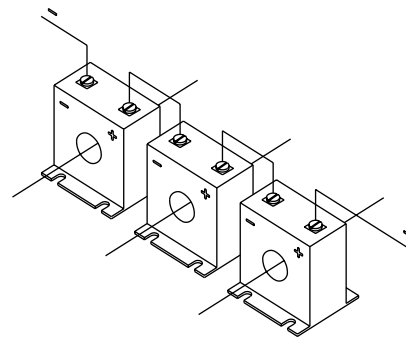
in (mm)

Typical Applications



EXTERNAL CURRENT TRANSFORMER

An external current transformer may be used with the transducer by routing the secondary leads through the window opening. Use the CR4310-5 or CR4311-5 current transducer with a 5 Amp secondary instrument grade current transformer. For additional details on current transformers, see page 25.



3-PHASE SYSTEMS

Three-phase systems may be monitored by attaching three transducers in series. The total output voltage will be the sum of each individual transducer. If each transducer is sized for the full-scale current, the output voltage will be 0-15 Vdc for the CR4310 Series (0-30 Vdc for the CR4311 Series) at 0 to 100% full-scale. As an alternate, each transducer may be sized for three times the full-scale current, then the output voltage for the CR4310 will be 0-5 Vdc for 0 to 100% full-scale.