

# True RMS AC Current Transducer

## DIN RAIL / PANEL MOUNT, TRUE RMS



Single Element - 0.79" Window  
0.5 to 150 AAC Input Range



Two Element - 0.26" Window  
0.5 to 30 AAC Input Range



Three Element - 0.26" Window  
0.5 to 30 AAC Input Range

Use a 5 Amp Secondary  
Current Transformer to extend  
the ranges of all CR Magnetics  
Current Transducers



All single phase current  
transducers are available in split  
core design. Simply put an "S" at  
the end of the prefix\*  
I.E. CR4110S-10  
\* **Not UL Recognized**

The **CR4100** Series True RMS Current Transducers and Transmitters are designed for applications where AC current waveforms are not purely sinusoidal. More precise and accurate than other transducers, these devices are ideal in chopped wave and phase fired control systems.

### Applications

Phase fired controlled heaters  
Quickly varying motor loads  
Chopped wave form drivers  
Harmonic currents

### Features

35mm DIN Rail or Panel Mount  
Available with 0-5 VDC, 0-10 VDC, 4-20 mADC output  
24 VDC powered  
Use with external current transformers  
Highest precision available  
Connection diagram printed on case

### Regulatory Agencies

Recognized to meet UL 61010B-1  
Constructed to meet CAN/CSA-C22.2, No. 61010-1-2004  
Meets requirement of IEC 61010-1 and BS EN 61010-1



### PART NUMBERS

|           |   |  |                                                            |
|-----------|---|--|------------------------------------------------------------|
| CR4110(S) | - |  | Single element with 0 - 5 VDC output (split core design)   |
| CR4111(S) | - |  | Single element with 0 - 10 VDC output (split core design)  |
| CR4120(S) | - |  | Single element with 4 - 20 mADC output (split core design) |
| CR4150    | - |  | Two element with 0 - 5 VDC output **                       |
| CR4160    | - |  | Two element with 4 to 20 mADC output **                    |
| CR4170    | - |  | Three element with 0 - 5 VDC output **                     |
| CR4180    | - |  | Three element with 4 - 20 mADC output **                   |

\*Two and three element transducers are available only in ranges of 0.5 to 30 AAC

Add suffix for input range

|            |   |             |
|------------|---|-------------|
| <b>5</b>   | - | 0- 5 AAC ** |
| <b>10</b>  | - | 0-10 AAC ** |
| <b>15</b>  | - | 0-15 AAC ** |
| <b>20</b>  | - | 0-20 AAC ** |
| <b>25</b>  | - | 0-25 AAC ** |
| <b>30</b>  | - | 0-30 AAC ** |
| <b>40</b>  | - | 0-40 AAC    |
| <b>50</b>  | - | 0-50 AAC    |
| <b>75</b>  | - | 0-75 AAC    |
| <b>100</b> | - | 0-100 AAC   |
| <b>150</b> | - | 0-150 AAC   |

Ranges available up to and including  
600 AAC

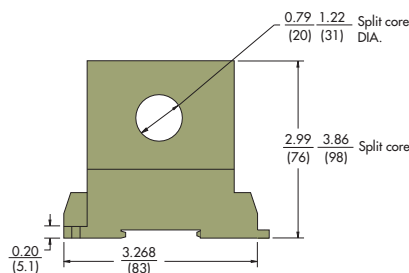
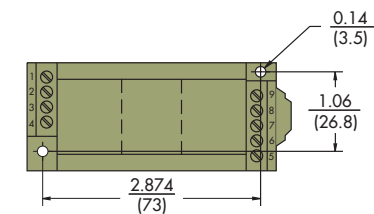
# True RMS AC Current Transducer

DIN RAIL / PANEL MOUNT, TRUE RMS

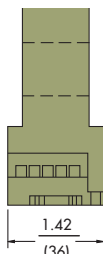
## SPECIFICATIONS

|                             |                                                                   |                            |                                                                        |
|-----------------------------|-------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------|
| Basic Accuracy:.....        | 0.5%                                                              | Response Time:.....        | 250 ms max. 0-90%                                                      |
| Linearity:.....             | 10% to 100% FS                                                    | FS Relative Humidity:..... | 80% for temperatures up to 31°C and decreasing linearly to 50% at 40°C |
| Calibration:.....           | True RMS Sensing                                                  | Torque Specs.:.....        | 3.0 inch lbs. (0.4Nm)                                                  |
| Thermal Drift:.....         | 500 PPM/°C                                                        | Weight:.....               | 0.5 lbs.                                                               |
| Operating Temperature:..... | 0°C to +60°C                                                      | Supply Current:            |                                                                        |
| Installation Category:..... | CAT II                                                            | CR4110/11.....             | Typical 15mA Max 25mA                                                  |
| Pollution Degree:.....      | 2                                                                 | CR4120.....                | Typical 25mA Max 40mA                                                  |
| Insulation Voltage:.....    | 2500 VDC                                                          | CR4150.....                | Typical 25mA Max 75mA                                                  |
| Vibration Tested To:.....   | IEC 60068-2-6, 1995                                               | CR4160.....                | Typical 40mA Max 70mA                                                  |
| Altitude:.....              | 2000 meter max.                                                   | CR4170.....                | Typical 20mA Max 60mA                                                  |
| Frequency Range:.....       | 20 Hz - 5 KHz                                                     | CR4180.....                | Typical 55mA Max 110mA                                                 |
| MTBF:.....                  | Greater than 100 K hours                                          | CR4110S.....               | Typical 15mA Max 25mA                                                  |
| Cleaning:.....              | Water-dampened cloth                                              | CR4120S.....               | Typical 25mA Max 40mA                                                  |
| Supply Voltage:.....        | 24 VDC $\pm$ 10%                                                  |                            |                                                                        |
| Output Load:.....           | 4-20 mADC - 0 to 300 $\Omega$<br>0-5 VDC - 2K $\Omega$ or Greater |                            |                                                                        |

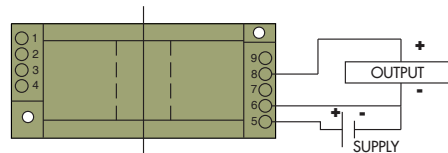
Transducers



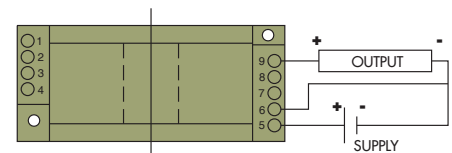
1 hole: 0.79(20) Dia. for CR4110, CR4111 & 4120 (shown)  
2 holes: 0.26(6.5) Dia. for CR4150 & 4160  
3 holes: 0.26(6.5) Dia. for CR4170 & 4180



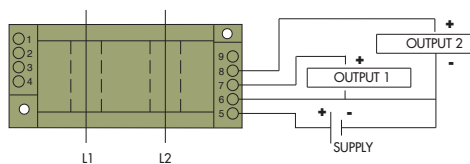
## OUTLINE DRAWING



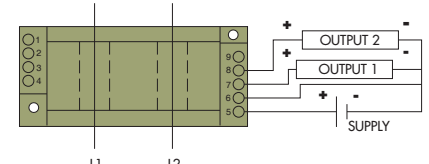
**CR4110** One Element 0 - 5 VDC Output  
**CR4111** One Element 0 - 10 VDC Output



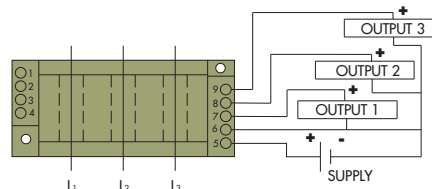
**CR4120** One Element 4 - 20 mADC Output



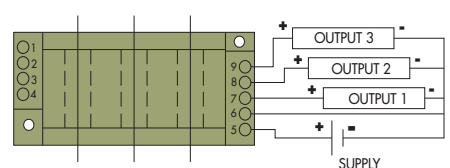
**CR4150** Two Element 0 - 5 VDC Output



**CR4160** Two Element 4 - 20 mADC Output



**CR4170** Three Element 0 - 5 VDC Output



**CR4180** Three Element 4 - 20 mADC Output

## CONNECTION DIAGRAM

NOTE: The building installation must have a switch or circuit-breaker that is in close proximity and within easy reach of the operator. The switch or circuit breaker shall be marked as the disconnecting device for the equipment.

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