DIN RAIL / PANEL MOUNT

CRD5110

Single Element - .26" (6.5)
Window 150 to 300 VAC
1 to 25 AAC Input Range

CRD5150

Two Element - .26" (6.5)
Window 150 to 300 VAC
1 to 25 AAC Input Range

CRD5170

Three Element- .26" (6.5)
Window150 to 300 VAC
1 to 25 AAC Input Range

The **CRD5100** Series Data Stream Digital Transducers are designed for complete monitoring of electrical power systems. The digital technology is used to measure voltage, current, power frequency and energy in single and three phase designs. The data is streamed over an RS485 IEEE bus which enables multiple transducers to communicate through a single master connection. These advanced sensors are ideal for entire plant or zone monitoring. Also, the communication algorithm can be ordered with ASCII based control or modified to MODBUS based control.

Sensing

Voltage, True RMS
Current, True RMS
Active Power, bi-directional
Active Energy, bi-directional
Reactive Power, bi-directional
Reactive Energy, bi-directional Power Factor
Frequency

Applications

Sub-Metering
Motor Loads
Uninterruptible Power
Systems Remote Monitoring
Load Shedding
Energy Management

Features

35mm DIN Rail or Panel Mount
Red LED - Flashes when Power is Connected
Red & Green LED Flash during Communication
24 VDC powered
Use with external current transformers
Highest precision available
Connection diagram printed on case

Regulatory Agencies

CE RoHS 2002/95/EC

B

Data Stream

PART NUMBERS

CRD5110	-		-		1 Element, AC Multifunction RS485 Digital Transducer
CRD5150	-		-		3 Phase, 3-Wire AC Multifunction RS485 Digital Transducer
CRD5170	-		-		3 Phase, 4-Wire AC Multifunction RS485 Digital Transducer

150 - 0-150 VAC	**1** - 0-1 AAC
300 - 0-300 VAC	**5** - 0-5 AAC
Available up to and including 600 VAC	**15** - 0-15 AAC
	25 - 0-25 AAC
	Above 30 AAC must use 5 amp CT

Note: Add an M at the end for MODBUS CRD5110-150-5-M

⚠ WARNING
Cancer
www.P65Warning.ca.gov

RS485 Digital Transducer

SPECIFICATIONS

Basic Accuracy: 0.5%
Calibration: ....True RMS Sensing
Thermal Drift: ....500 PPM/°C
Operating Temperature$_1$: ....0°C to +60°C
Installation Category: ....CAT II
Vibration Tested To: ....IEC 60068-2-6,1995
Pollution Degree: 2
Insulation Voltage: ....2500 VDC
Altitude: ....2000 meter max
Frequency Range: ....45Hz ~ 65Hz
MTBF: ....Greater than 100K hours
Cleaning: ....Water-dampened cloth
Supply Voltage$_2$: ....24 VDC ±10%

Torque Specifications: ....3.0 inch lbs (0.4Nm)
Response Time: ....250 ms. max. 0-90% FS
Relative Humidity: ....5% to 95%, Non-Condensing
Output Resolution: ....16 bit
Transducer fanout on common bus: ....64 max.
Baud Rate$_3$:   ....1200, 2400, 4800, 9600,19.2K .bps
A/D Conversion Type: ....4th order Delta Sigma
Device Address$_3$:   ....00 to FF
Data Format: ....ASCII
Supply Current:.................Typical 30mA   Max 30mA
Weight:.. ....0.5 lbs.

1) RH 5% to 95%, non-condensing 2) 0.4% max. ripple Vpp   no flow control, 1 stop bit
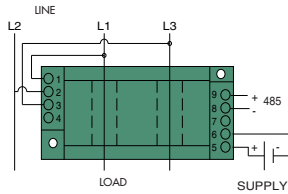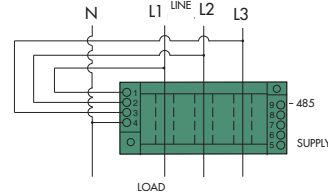3) Factory default settings: address 01, baud rate 9600, no parity,
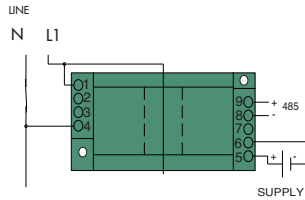
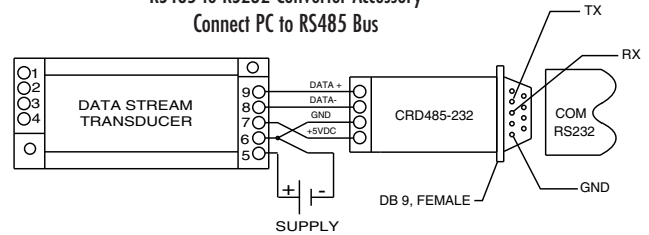**CRD5110** Single Element, 2-Wire
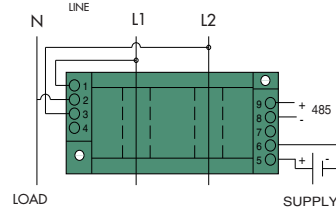
CRD5150 Dual Element, 3-Wire

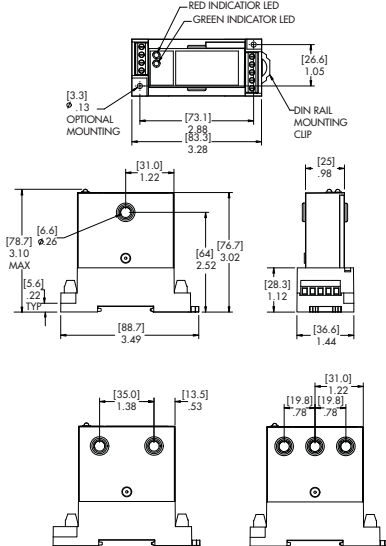**CRD5150** Dual Element, 3-Wire

CRD5170   3 Element, 4-Wire

CRD485-232
RS485 to RS232 Converter Accessory
Connect PC to RS485 Bus

Connection Diagram

OUTLINE DRAWING

ASCII Simplified Programming Commands

A simplified data structure is used with only 6 commands required for full control of the transducer. Commands are : Read Transducer Name, Read Configuration, Set Configuration, Read Measurements, Read Energy Totalizer and Clear Energy Totalizer. For illustration, the following commands are used to read data from a CRD5170 3 Phase, 4 Wire Transducer with a device address of 00.

Command Transducer to Read Data: #00A<cr>
Transducers Response: >+[% FS Voltage$_{L1-N}$]+[% FS Current$_{L1}$]+[% FS Voltage$_{L2-N}$]+[% FS Current$_{L2}$]+[% FS Voltage$_{L3-N}$]+[% FS Current$_{L3}$,][+/- % FS Power][+/-% FS VARS][+/-Power Factor][Frequency]<cr>
Command Transducer to Read Energy Totalizer: #00W<cr>
Transducer Responds: 01[+/-KWHr]{\[+/-KVHr][check sum]<cr>
Note: This is for illustration purposes only, See Applications Guides (Section I for complete instructions.