DIN RAIL / PANEL MOUNT

Single Element
150 to 300 VAC Input Range

Two Element
150 to 300 VAC Input Range

Three Element - .26" Window
150 to 300 VAC Input Range

The **CRD4500** Series Data Stream Digital Transducers are designed for applications where AC current waveforms are not purely sinusoidal. 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 thru a single master connection. These advanced sensors are ideal for entire plant or zone monitoring. Also, the communication alagorithm can be pre-ordered with ASCII based control or modified MODBUS based control.

Sensing
True RMS Voltage, Each Phase

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

Features
35mm DIN Rail or Panel Mount
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			
CRD4510	-		Single Element, AC Voltage RS485 Digital Transducer
CRD4550	-		Two Element, AC Voltage RS485 Digital Transducer
CRD4570	-		Three Element, AC RS485 Digital Transducer

150 - 0-150 VAC
300 - 0-300 VAC
Available up to and including 600 VAC

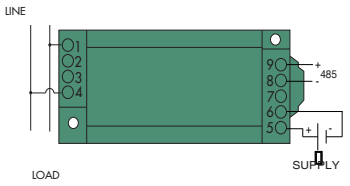
Note: Add an M at the end for MODBUS CRD4510-150-M

SPECIFICATIONS

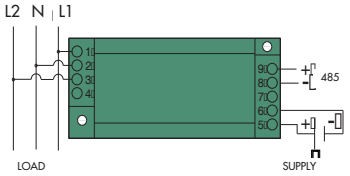
Basic Accuracy: 0.5%
Calibration: .....True RMS Sensing
Thermal Drift: .....500 PPM/°C
Operating Temperature$_1$: .....0°C to +60°C
Installation Category: .....CAT II
Vibration Tested To: .....IEC 60068-2-6,1995
Pollution Degree: 2
Insulation Voltage: .....2500 VDC
Altitude: .....2000 meter max
Frequency Range: .....20 Hz - 5 KHz
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: .....80% for temperatures up to 31°C and decreasing linearly to 50% at 40°C
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.

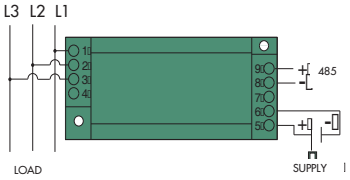
1) RH 5% to 95%, non-condensing 2) 0.4% max. ripple Vpp
3) Factory default settings: address 01, baud rate 9600, no parity, no flow control, 1 stop bit



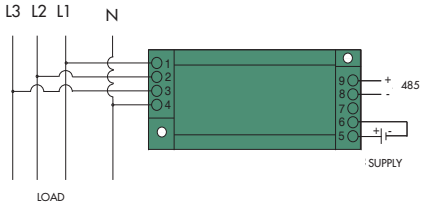
CRD4510 Single Element, 2-Wire



CRD4550 Dual Element, 3-Wire

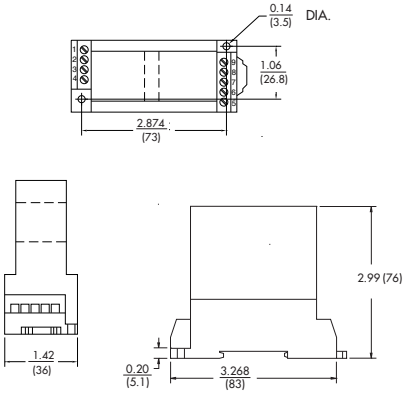


CRD4550 Dual Element, 3-Wire



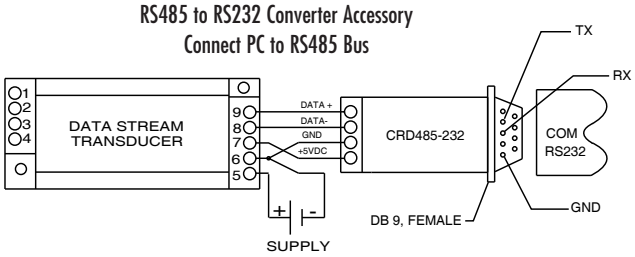
CRD4570 3 Element, 4-Wire

Connection Diagram



OUTLINE DRAWING

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



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.