Data Stream RS485 Digital Voltage Transducer

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



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 -** 0-1*5*0 VAC **300 -** 0-300 VAC

Available up to and including 600 VAC

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

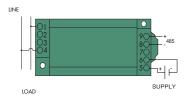


CR Magnetics, Inc. 3500 Scarlet Oak Blvd. St. Louis MO USA 63122 V: 636-343-8518 F: 636-343-5119

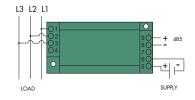
Web: http://www.crmagnetics.com E-mail: sales@crmagnetics.com

SPECIFICATIONS

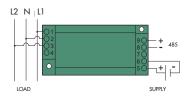
Basic Accuracy:	0.5%	Torque Specifications:3.0 inch	lbs (0.4Nm)		
Calibration:	True RMS Sensing	Response Time:250 ms. ma	x. 0-90% FS		
Thermal Drift:	500 PPM/°C	Relative Humidity:80% for temper	ratures up to		
Operating Temperature	e ₁ :0°C to +60°C	31°C and decreasing linearly to 50% at 40°C			
Installation Category:	CAT II	Output Resolution:	16 bit		
Pollution Degree:	2	Transducer fanout on common bus:	64 max.		
Insulation Voltage:	2500 VDC	Baud Rate ₃ :1200, 2400, 4800, 96	00,19.7K .bps		
Altitude:	2000 meter max	A/D Conversion Type:4th order	Delta Sigma		
Frequency Range:	20 Hz - 5 KHz	Device Address ₃ :	00 to FF		
MTBF:	Greater than 100K hours	s Data Format:	ASCII		
Cleaning:	Water-dampened cloth	Supply Current:Typical 30mA	Max 30mA		
Supply Voltage ₂ :	24 VDC ±10%	Weight:	0.5 lbs.		
1) RH 5% to 95%, non-cond-	ensing	2) 0.4% max. ripple Vpp			
3) Factory default settings: address 01, baud rate 9600, no parity, no flow control, 1 stop bit					



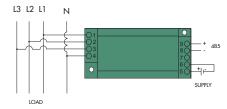
CRD4510 Single Element, 2-Wire



CRD4550 3 Element, 3-Wire

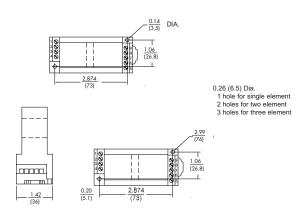


CRD4550 Single Element, 3-Wire



CRD4570 3 Element, 4-Wire

Connection Diagram



OUTLINE DRAWING

CRD485-232 RS485 to RS232 Converter Accessory Connect PC to RS485 Bus DATA STREAM TRANSDUCER CRD485-232 RS232 DB 9, FEMALE

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>

 $\textbf{Transducers Response:} \ \, \text{>+}[\% \ \text{FS Voltage}_{L1\text{-}N}] + [\% \ \text{FS Current}_{L1}] + [\% \ \text{FS}]$

 $\label{eq:local_local_local_local_local} \mbox{Voltage}_{L2-N}] + [\% \mbox{ FS Current}_{L2}] + [\% \mbox{ FS Voltage}_{L3-N}] + [\% \mbox{ FS Current}_{L3},][+/-\ \% \mbox{ FS Current}_{L3},][+/-\ \%$

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.



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