



Series K3000 Single Phase Kilowatt Hour Meter

Features:

- Six Digit kWh LCD Display (no multipliers)
- Voltage Per Phase
- Amperage Per Phase
- kWh Per Phase
- Remote CT Operated (up to 10,000 Amps)
- kWh Pulse (Form A Relay)
- RS 485 Modbus Communications (included)
- Plug In Terminals for Field Testing
- Rate LED Indicates Relay Operation
- LCD Display Shows Correct / Incorrect Wiring

Specifications:

- NEMA 1 Painted Steel Enclosure
- Temp Range: -10 – 120 Degrees F
- Humidity: 95% Non Condensing
- Pulse Relay: 120 VAC .5 Amp Resistive
- Meter Consumption: 0.2 Amps
- Burden: CT Burden 0.6 VA
- Isolated CT Circuit
- Microprocessor Based – Ram Based – No Batteries

Accuracy:

- Power: 0.5%
- Energy: 0.2%
- ANSI C12.16

Compliance:

- Accuracy: ANSI C12.20
- FCC: Class A Part 15
- UL/CUL/CSA Listed
- Michigan Compliant
- NYC Approved

Current Transformers:

- Includes 2 – LX400 CTs
- (+/- 1% between 4 – 400 Amps)
- Other Solid Core – Bar Type – Split Cores CTs up to 10,000 Amps Available

Communication Options:

- Hard Wired Modbus Data– (up to 255 meters on one 2 wire circuit)
- Ethernet Converter (for direct Internet connection through LAN)



Models:

Kilowatt Hour Meters:

- K3223 120/208/240 VAC 3 Wire
- K3240 240 VAC 2 Wire
- K3277 277 VAC 2 Wire

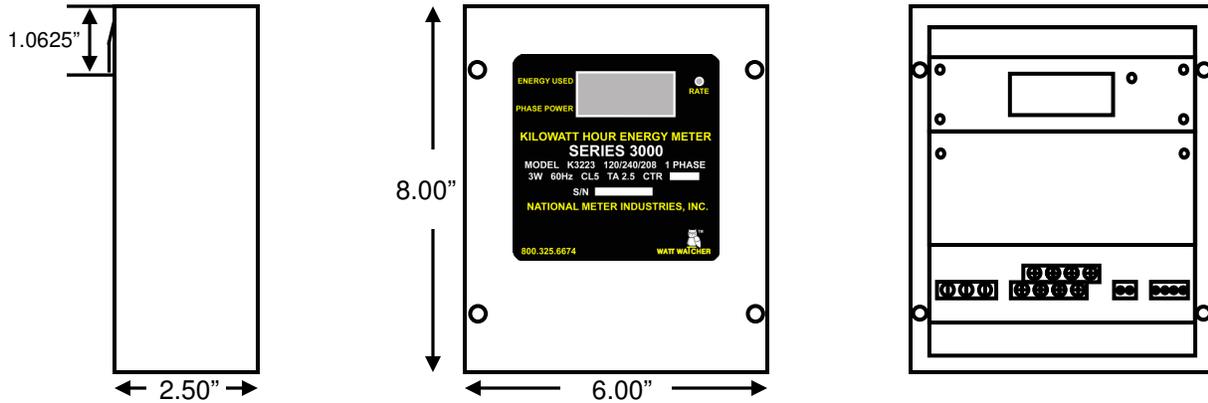
Meter Option:

- New Work Kit with Rough In Ring and Flush Cover
- Old Work Kit with Flanged Box and Flush Cover

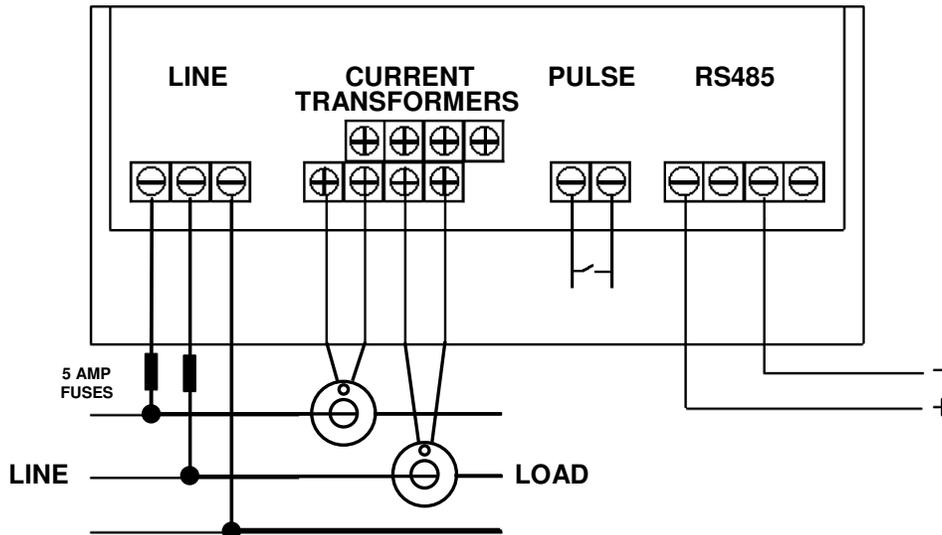
Software:

- Reading & Billing (R&B v2.0)
- Power Analyzing and Trending (Powerstudio)

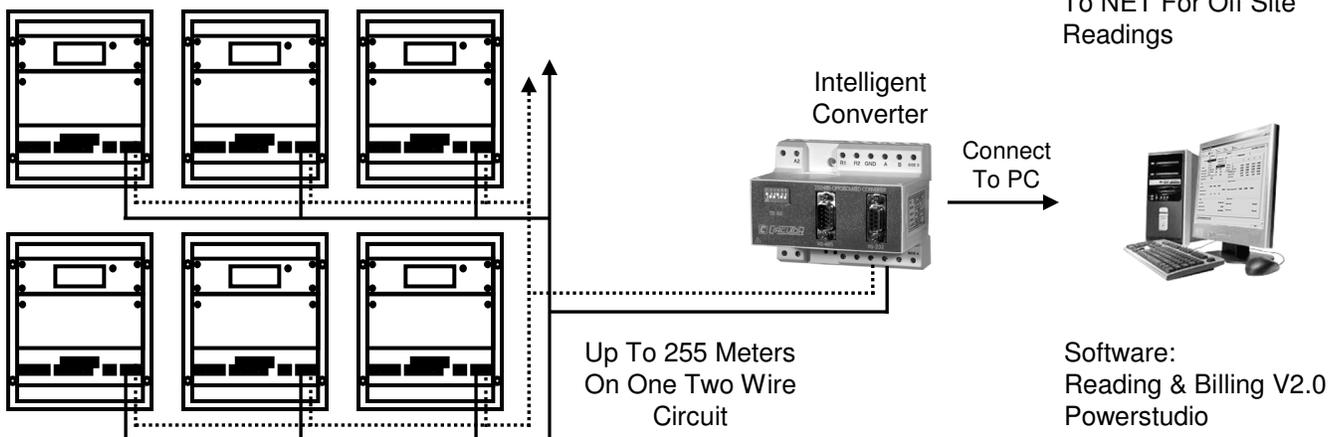
Series 3000 Dimensions



Typical Wiring Diagram



Hard Wired Communications





LX400 Solid Core Current Transformer

Features:

The “LX” Series CT is our most popular Solid Core Current Transformer. It is offered in a Ratio of 400:5 and comes with three feet of #18 AWG wire attached. The accuracy range of this CT is +/- 1% from 1% through 100% loading.

Example:

The LX400 CT is +/- 1% between 4 – 400 AMPS.

Standards:

ANSI C57.13

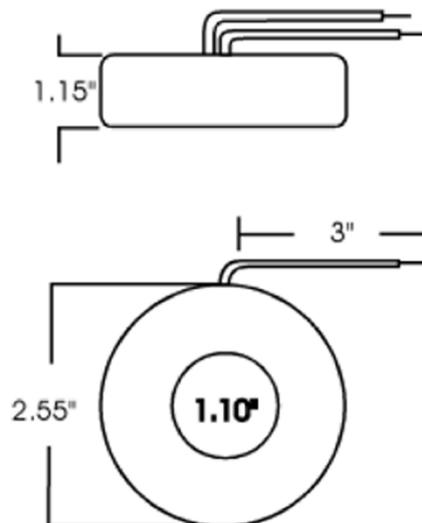


Other Current Transformers:

Larger Solid Core, Split Core and Bar Type CTs are available from 5 – 10,000 AMPS.

High Voltage 5kV – 34.5kV CTs are also available to meet any application.

Dimensions



TYPICAL ON SITE SYSTEM

NOTES:

EACH METER HAS A UNIQUE ADDRESS PROGRAMMED INTO IT, USED BY THE SOFTWARE, FOR IDENTIFICATION.

METERS' COMMUNICATION IS MODBUS RS485 RTU.

THIS IS A TWO WIRE SYSTEM.

INTERCONNECT METERS USING EITHER 18/2 TWISTED SHIELDED OR 2 PAIRS OF A CAT 6 CABLE. KEEP POSITIVE AND NEGATIVE SEPERATED.

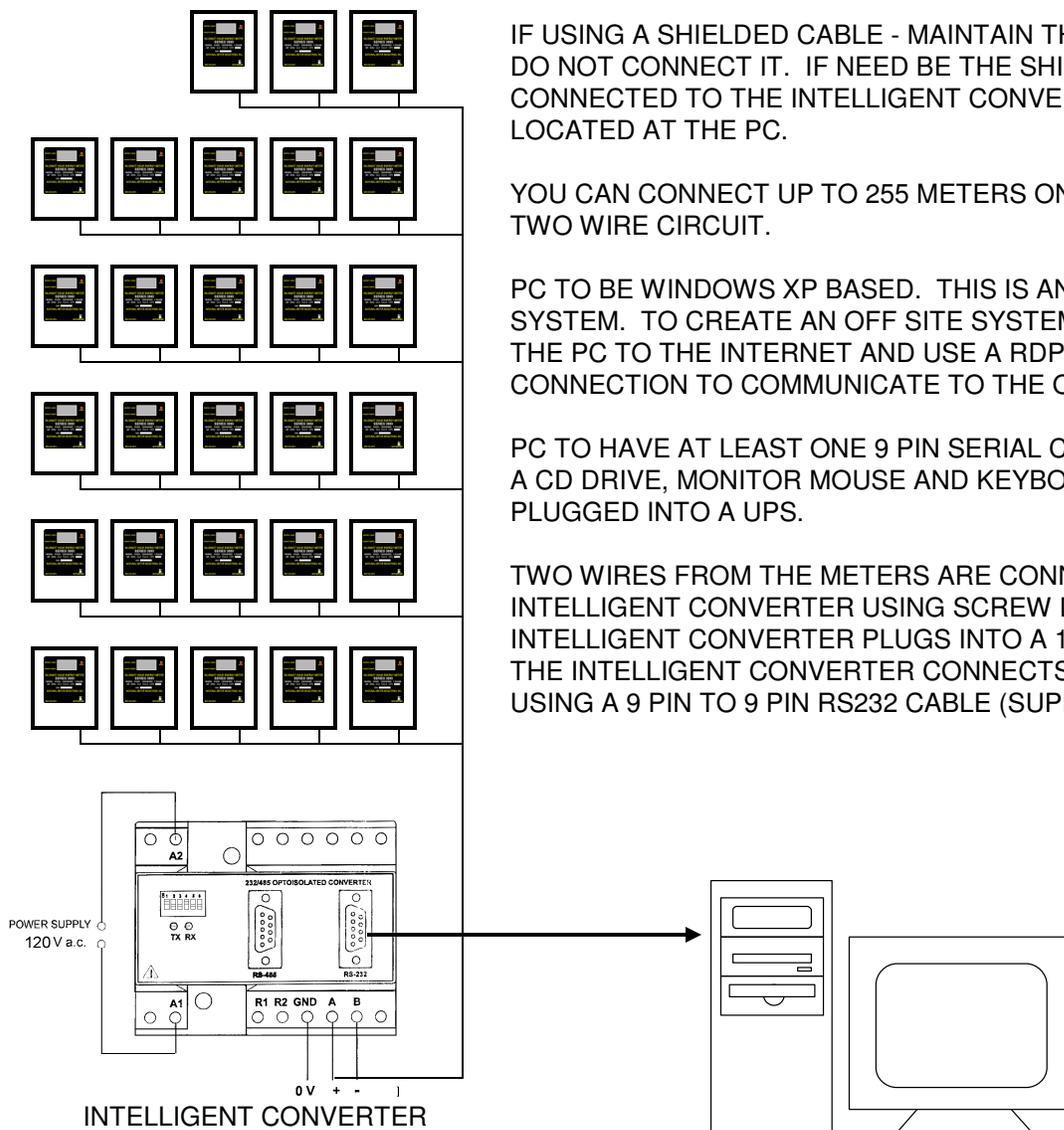
IF USING A SHIELDED CABLE - MAINTAIN THE SHIELD BUT DO NOT CONNECT IT. IF NEED BE THE SHIELD WILL BE CONNECTED TO THE INTELLIGENT CONVERTER, LOCATED AT THE PC.

YOU CAN CONNECT UP TO 255 METERS ONTO ONE TWO WIRE CIRCUIT.

PC TO BE WINDOWS XP BASED. THIS IS AN ON SITE SYSTEM. TO CREATE AN OFF SITE SYSTEM - CONNECT THE PC TO THE INTERNET AND USE A RDP, VNC CONNECTION TO COMMUNICATE TO THE OFFSITE PC.

PC TO HAVE AT LEAST ONE 9 PIN SERIAL COMM PORT. A CD DRIVE, MONITOR MOUSE AND KEYBOARD AND BE PLUGGED INTO A UPS.

TWO WIRES FROM THE METERS ARE CONNECTED TO THE INTELLIGENT CONVERTER USING SCREW DOWN PADS. THE INTELLIGENT CONVERTER PLUGS INTO A 120 VAC OUTLET. THE INTELLIGENT CONVERTER CONNECTS TO THE PC USING A 9 PIN TO 9 PIN RS232 CABLE (SUPPLIED).

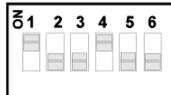
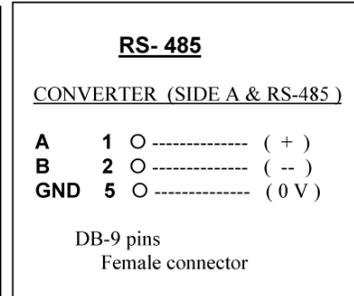
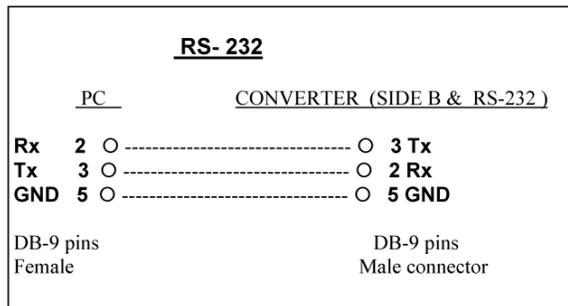




RS485 / RS232 Intelligent Converter

Features:

Connect Up To 255 Meters onto One Two Wire Circuit
Communicate with Meters up to One Mile Away



MICROSWITCH

Data length
(Select only one)

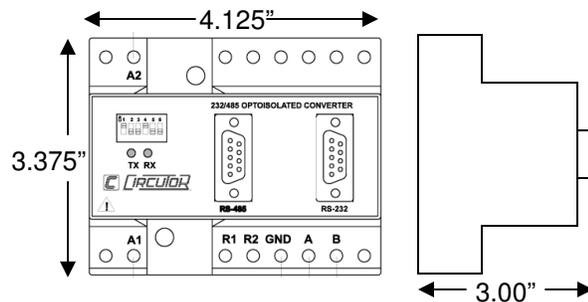
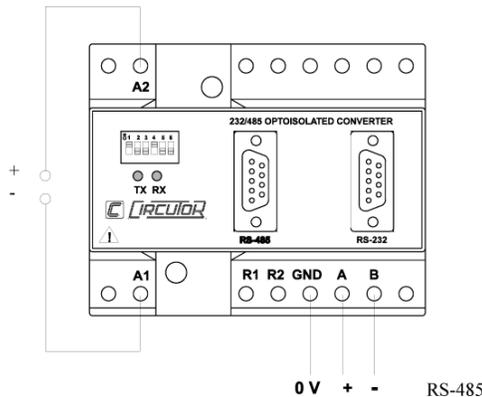
1 ON = 10 bits
2 ON = 11 bits

Baud rate
(Select only one)

3 ON = 4,800
4 ON = 9,600
5 ON = 19,200
6 ON = 38,400

Characteristics :

Power supply : 120 Vac (A1 - A2)
Consumption : 3 VA
Baud rate : 4800 to 38,400
Data length : 10 - 11 bits
R1 and R2 : End of Line Resistor

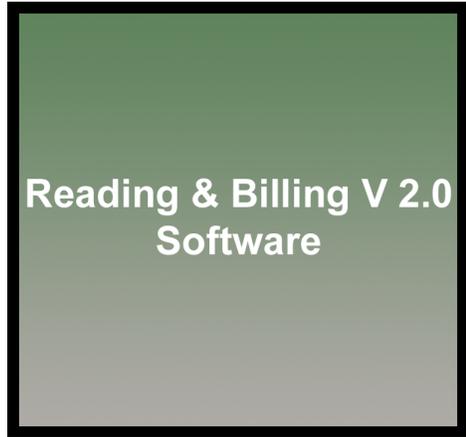




Reading & Billing V 2.0 Software

Reading & Billing V2.0 software is a simple Windows™ based software package that allows the end-user to manually or automatically read National meters having RS485 Modbus communications. This system comes with unlimited / unabused telephone support and unlimited downloads, from an FTP site, in case of PC upgrade or hard drive corruption.

R&B V2.0 polls the meters for current kWh readings and saves the readings for trending and billing purposes. Offers the ability to build a customized Rate schedule, view past meter usage and view each meter's programming and current data to confirm proper meter installation.



The screenshot displays the National Meters software interface with several windows open:

- Site Meters...**: A table listing meter details.

Meter Address	Serial #	Model	Description	Units	Used	TenantID
32	405232	Series 4000		KWH	Yes	1
29	405229	Series 4000		KWH	Yes	1
40	405240	Series 4000		KWH	Yes	1
36	405236	Series 4000		KWH	Yes	1
37	405237	Series 4000		KWH	Yes	1
41	405241	Series 4000		KWH	Yes	1
31	405231	Series 4000		KWH	Yes	1
- Billing Reports**: A window showing a utility bill for 11/12/2009.

Utility Bill

Billing Date: 11/12/2009
Account #: 100

Current Amount Due \$7471.20

Amount Enclosed: \$ _____

Detach here and mail with payment
Retain this portion for your records

Start of Period	End of Period	Period Totals
10/02/09	10/31/09	29 Days
108661	111131	2470 KWH
75087	75663	576 KWH
82078	84261	2183 KWH
122475	125684	3209 KWH
- Electric Rate Schedules**: A window for configuring rate schedules.
 - Schedules...**: A tree view showing 'New Bus Times' and 'General Time Meters'.
 - Time Schedule**: A dialog box for 'General Time' with the following settings:
 - Description: General Time
 - Start Date: 1/15/2006
 - Start Time: 7:00 AM
 - Days of Week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday (all checked).