

# Nexus® 1262/1272

High Performance Utility Billing Meters with Communication and Advanced Power Quality

**Nexus® 1262**  
Economical Meter with  
Advanced Communication



**Nexus® 1272**  
Performance Meter with  
Advanced Communication  
& Power Quality

## Highly Advanced Revenue Meter

- 0.06% Wh Accuracy
- Precision Auto-calibrating Metrology
- Multipoint Compensation Factors
- Pulse Totalizers
- Load Profilers and I/O
- MV-90 Compatible
- Available in Socket, A-Base and Switchboard Form

## Highly Advanced Communication

- Up to 4 Com Ports
- Modbus RTU and Modbus TCP/IP
- DNP 3.0 Serial and Ethernet
- Combo RJ11 Modem and Ethernet Port
- Web Server and Email on Alarm
- High-Speed, Power Quality Waveform Recorder
- 9 Levels of Password Security

The Nexus® 1262/1272 meters are designed for demanding smart grid and intelligent substation applications. They provide one of the most profound analyses of electricity available in a socket form revenue meter. The units offer extensive advanced monitoring features to meet the most critical power monitoring requirements. Using advanced DSP technology, the Nexus® meters provide immediate and stored revenue power data coupled with superior power quality and communication. To meet the sophisticated standards required by utility companies and de-regulated power providers, the Nexus® meters' basic package starts where most other meters end. Standard features in Nexus® units provide the ability to meet your future advanced metering needs.

## ACCU-MEASURE™ AUTO-CALIBRATING METROLOGY

EIG's Accu-Measure™ auto-calibrating metrology provides unmatched accuracy.

- Energy and Power Accuracy to within 0.06%
- Auto-calibration over Time
- Automatic Temperature Drift Adjustments
- Improved Stability and Better Long Term Accuracy

## 4 QUADRANT MEASUREMENT

The unit is a full four quadrant meter and gathers hour data information in every quadrant.

- kWh Delivered and Received
- kVAh in Each Quadrant
- kVARh in Each Quadrant
- Q Hours

|       | 1 sec  | Thermal | Block  | Rolling | Predicted |
|-------|--------|---------|--------|---------|-----------|
| Watts | 123.31 | 123.31  | 123.31 | 123.31  | 123.31    |
| VARs  | 123.31 | 123.31  | 123.31 | 123.31  | 123.31    |
| VA    | 123.31 | 123.31  | 123.31 | 123.31  | 123.31    |
| PF    | 123.31 | 123.31  | 123.31 | 123.31  | 123.31    |

## TIME OF USE

The 1262/1272 offers robust time of use functionality. Standard capabilities include:

- 8 TOU Schedules
- 4 Seasons/Year
- 20 Year Calendar
- Prior Month and Prior Season
- Programmable Freeze Registers

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
| 1   | 2   | 3   | 4   | 5   | 6   | 7   |
| 8   | 9   | 10  | 11  | 12  | 13  | 14  |
| 15  | 16  | 17  | 18  | 19  | 20  | 21  |
| 22  | 23  | 24  | 25  | 26  | 27  | 28  |
| 29  | 30  | 31  |     |     |     |     |

## TRANSFORMER AND LINE LOSS COMPENSATION

Loss Compensation adjusts for both copper and iron losses with a simple user setup.

Device Profile: Transformer and Line Loss Compensation

**Percent Loss of Watts**

Due to Iron: 0.000

Due to Copper: 0.000

**Percent Loss of VARs**

Due to Iron: 0.000

Due to Copper: 0.000

Disabled

Add to Watts and Subtract from VARs

Transformer and Line Loss Applies to: Both +Watts and -Watts

## FIELD TEST MODE

- Test All Energy Readings
- Enable/Disable in Test Mode
- Preset Accumulators
- Freezable Accumulators

## LOAD AGGREGATION/UNIVERSAL METERING

Using standard pulse inputs, the Nexus® 1262/1272 meter can count pulses from external meters and accumulate usage. The pulse inputs can be used to totalize electrical usage and utility values, such as water or gas use data.

| Source      | Total    | Average | Maximum | Time Stamp             | Acc To  |
|-------------|----------|---------|---------|------------------------|---------|
| Load Acc. 1 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 2 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 3 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 4 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 5 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 6 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 7 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |
| Load Acc. 8 | 9999.999 | 0.000   | 0.000   | 01/01/2011 13:55:30.28 | Hex Set |

- 8 Pulse Inputs
- Individual Accumulating Registers
- 4 Totalizing Registers (Add or Subtract)

## CT & PT COMPENSATION

The Nexus® units compensate for errors in current transformers and potential transformers.

- Voltage Compensation
- Multipoint Current Compensation
- Multipoint Phase Angle Compensation
- Better than 0.01% Resolution

CT & PT Compensation (V2)

| Voltage Readings | Gain Factors |                |
|------------------|--------------|----------------|
|                  | % Error      | Existing / New |
| A                |              | 0.0000 /       |
| B                |              | 0.0000 /       |
| C                |              | 0.0000 /       |
| Aux              |              | 0.0000 /       |

Calibration Point: Voltage Cal Point

Step 1: Voltage Step 2: Power at Utility Step 3: Power at 0V Phase

Instructions: Apply Voltage to each Phase. Write in error in percent for each phase. Please Write New Gain Factors after entering all % Errors for Voltage. Click Step 2 Tab.

## MULTIPLE DEMAND WINDOWS

The Nexus® 1262/1272 meter simultaneously monitors five demand structures.

- Block Window Demand
- Rolling Window Demand
- Predictive Demand
- Thermal Demand
- Cumulative Demand
- Interval Length from 1 Second to Many Hours
- End of Interval Pulse Output
- End of Interval Pulse Input
- Cold Load Pickup

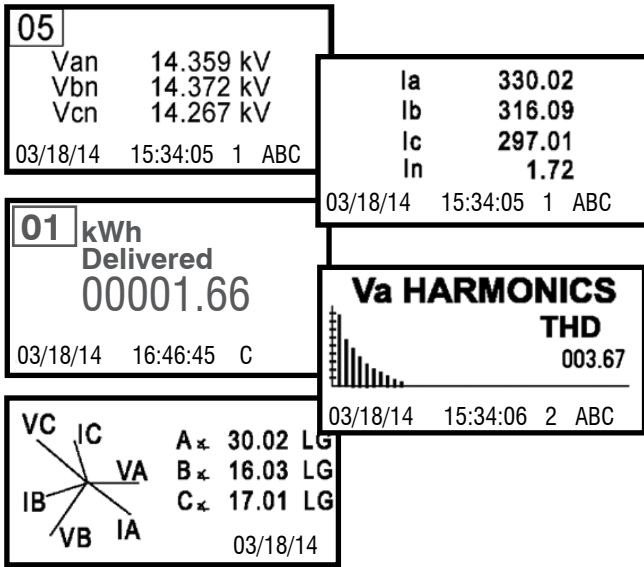
## TIME STAMPED MAX. DEMANDS

The units gather demand information for all power values. Each value is date/time stamped.

- kW Demand, Delivered & Received, Max/Min
- kVAR Demand, Delivered & Received, Max/Min
- kVA Demand, Max/Min
- Amps Demand, Max/Min
- Voltage, Max/Min
- kVAR Coincident with kW Demand

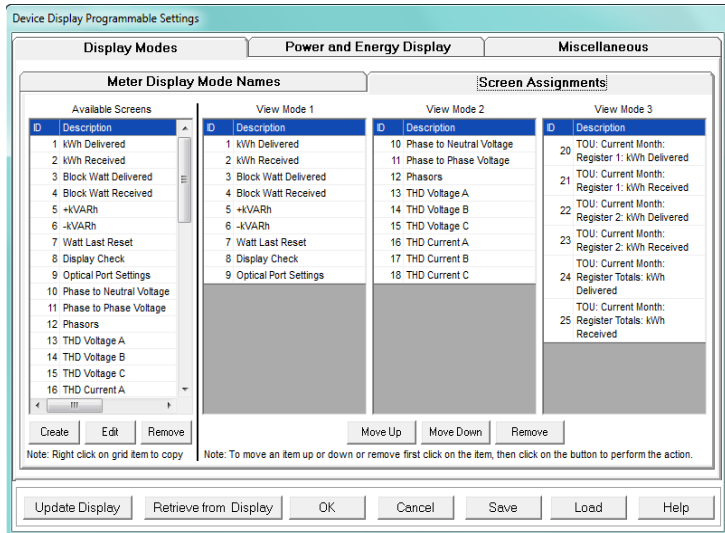
## Unique Display Configurator

The Nexus® 1262/1272 meter is designed with one of the industry's most advanced LCD display configuration technologies, which lets you choose from multitudes of pre-programmed display screens and create fully customized displays for any specific application. Build from scratch, as needed, user display screens that provide information on anything the meter measures (which is almost everything). Use the display to view not only electrical, but water or gas usage. Also use the meter as an aggregator for total usage. Provide ambient and transformer temperature or any other desired critical operational data on the display.

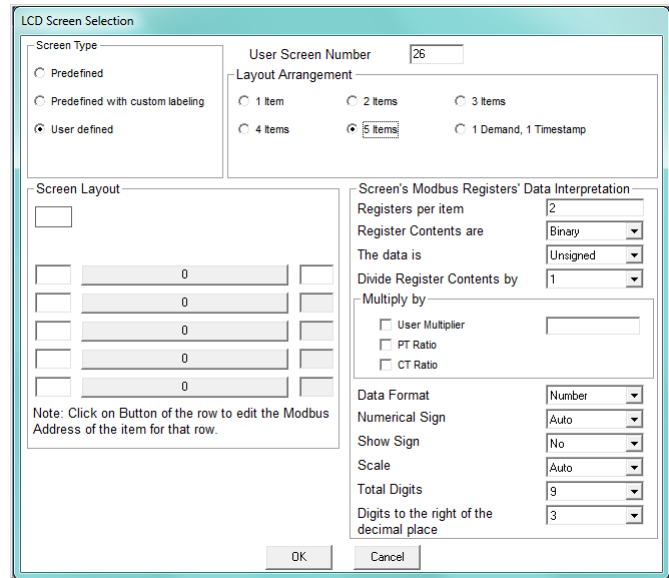


### 3 DISPLAY MODES/75 SCREEN SLOTS

The meter's memory has 75 slots for custom and/or pre-programmed screens. These slots can be allocated to any view mode with any number of slots used in each of the modes.



Highly configurable display assignments



### CUSTOM DISPLAY CONFIGURATOR TO CREATE EXACTLY WHAT'S NEEDED

- Make Custom Screens Based on Modbus Registers
- Make Any Custom Labels
- Customize Screen Numbering and Order
- Display Up To 5 Pieces of Information Per Screen
- Display Water, Gas and Other Types of Usage
- Add Diagnostic Information

### NORMAL MODE

- kWh Delivered and Received
- kVAh Delivered and Received
- Peak Block Window Demand
- kVARh Delivered and Received
- Peak Rolling Window Demand

### TIME OF USE MODE

- kWh and kW Demand Delivered and Received Total
- kVARh and kVAR Demand Delivered and Received for Each Register
- kVAh Delivered and Received for Each Register
- kVAh Delivered and Received Total

### PRE-CONFIGURED DIAGNOSTIC SCREENS

Select from a large offering of diagnostic screens such as:

- Voltages
- Harmonic Magnitudes
- Meter Status
- Per Phase Amps
- Many More Diagnostic Screens Available
- Phase Angles
- Firmware Versions
- Phasor Diagram
- Watts/VARS

### INFRARED TEST PULSE

The meter provides an infrared test pulse that can pulse for +Wh, -Wh, +VARh, -VARh, and VAh. This pulse uses time modulation, allowing the pulse to be accurate during short duration pulse tests using industry accepted reference standards.



## STANDARD MULTI-PORT COMMUNICATION

- Optical Port
- 2 RS485 Serial Ports
- Modbus RTU/ASCII
- DNP 3.0
- Speeds Up to 115200 bps

## OPTIONAL COMMUNICATION

- Dial-Out Modem (56k) with Battery Backed Outage Reporting (INP2)
- 10/100BaseT Ethernet (INP200)
- Ethernet/Modem Combo (INP202)

## COMBINATION MODEM & WEB SOLUTION

This option allows you to access the meter through the web and through a modem for dial-up communication. Features include:

- 56k Modem
- 10/100BaseT Ethernet
- Total Web Solutions (Web Server)
- Email on Alarm
- 12 Modbus Sockets
- 5 DNP over Ethernet Sockets
- Does Not Support Battery for Outage Reporting

## STANDARD I/O

- IRIG-B 1 msec Time Synchronization to GPS Satellite Clock
- 4 Internal KYZ Pulse Outputs
- 8 KYZ Pulse/Status Inputs

## OPTIONAL EXTERNAL I/O

Connect multiple external I/O Modules for enhanced I/O capability.

- Analog Outputs
- Analog Inputs
- Digital Status Inputs
- KYZ Outputs
- Relay/Alarm Outputs

## CONTROL CAPABILITIES

- ElectroLogic™ Provides User-definable Control Outputs
- Action and/or Alarm on Abnormal Condition
- Action on Boolean Logic Combinations of Inputs or Electrical Conditions

## DNP 3.0 LEVEL 2 PLUS

The Nexus® 1262/1272 meter provides advanced DNP 3.0 protocol implementations. DNP 3.0 is available on the serial and Ethernet ports. EIG's Nexus® 1262/1272 meter complies with all DNP Level 1 and Level 2 certification requirements PLUS a host of additional features including:

- **Up to 104 Measurements:** 64 Binary Inputs, 8 Binary Counters, 32 Analog Inputs Mapped to DNP Static Points in the Customizable DNP Point Map
- **Up to 16 Relays and 8 Resets:** Can Be Controlled through DNP
- **Report-By-Exception Processing:** (DNP Events) Deadbands Can Be Set on a Per-point Basis
- **250 Events in Combinations of Four Events:** Binary Input Change, Frozen Counter, Counter Change, Analog Change
- **Freeze Commands:** Freeze, Freeze/No-Ack, Freeze with Time, Freeze with Time/No-Ack, Scheduled Freeze Command
- **Freeze with Time Command:** Enables the Nexus® Meter to Have Internal Time-driven Frozen Counter and Frozen Counter Event Data
- Third Party Certification is Available
- 5 Simultaneous DNP Ethernet Sessions

## Total Web Solutions — Providing Advanced Metering Data Integration With the Web

Total Web Solutions is an advanced Ethernet communication architecture that lets you design custom webpages, display metering data and host your meter power information website directly on a Nexus® meter. The Nexus® meter hosts the web data without any need for dedicated server software, ActiveX Controls or Java Applets. The meter does the data collection, the formatting and the page hosting.

## ADVANCED FEATURES INCLUDE:

- Fully Customizable Webpage Development
- Direct Webpage Hosting With Live Readings
- Multiple Meter Hosting
- Read Direct From Meters (No Server Software Needed)
- No Active Controls or Java Downloads
- IT Dept Friendly; Works Through Firewalls; Low-Cost/High Functionality
- Instant Alarm Emails – Direct from the Meter

## WEBEXPLORER

(Directly Host Metering Data)

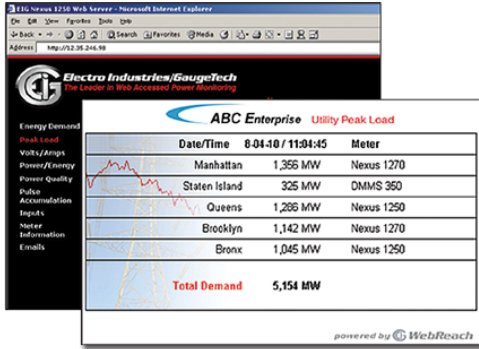
EIG's WebExplorer provides you with direct access to all power data through Internet Explorer in standard HTML format, without needing to download ActiveX controls or Java applets. WebExplorer is fully programmable, so you can customize your own SCADA quality webpages, graphics and configurations.

- Easily Incorporated Into Any Existing Web Applications
- Fully Programmable Webpage Generator
- Brings in Direct XML Links, Displaying Many Meters on One Page

## WEBXML

Creates Real Time Data in XML Format. WebXML allows the Nexus® meter to gather data from the Nexus® host or through other meters and put the data directly into an XML format. This allows you to share data through the web with multiple applications and create custom webpages, using WebExplorer.





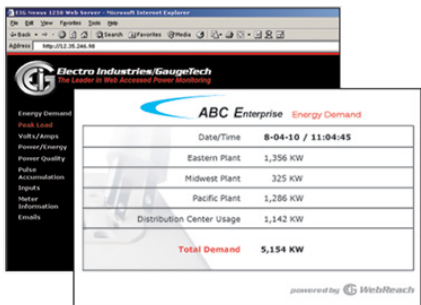
WebXML technology is easy to configure and extremely flexible. With WebXML, your data is instantly available to a host of software applications, including standard web browsers and documentation software.

- Automatically Process and Present Data In Readable XML Format
- Add Scale Factors, Multipliers or Other Desired HTML Capability
- Display Data From Host Meter and/or Any Other Meter Using Modbus RTU or TCP/IP (WebReacher)
- Customized Programming
- Easily Viewed by Different Applications
- Modbus Data Concentrator

**WEBREACHER**

With EIG's exclusive WebReacher technology, you can now access remote meters around the world, retrieve data and consolidate it onto one webpage or website without any separate software SCADA package or client-side ActiveX controls or Java applets.

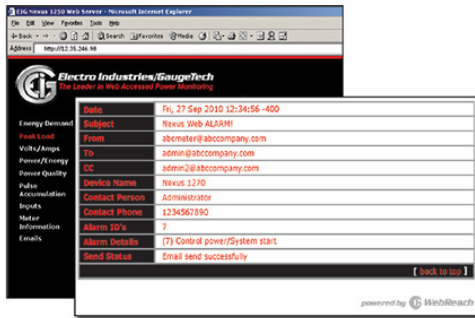
- No Additional Software Application Costs
- No Server System Required
- No Complex Integration
- No Costly Point Charges (Up to 32 Devices)



**WEBALARM – EMAIL ALERTS**

EIG's WebAlarm sends real time email alerts via the Internet to up to 9 recipients simultaneously for any combination of event notifications.

- Real Time Alerts
- Simultaneous Emails to Multiple Recipients
- Update Users on Virtually Any Abnormality
- Uses Standard SMTP — Just Assign Email Addresses
- Shows the Last 10 Emails on Website for Later Investigation



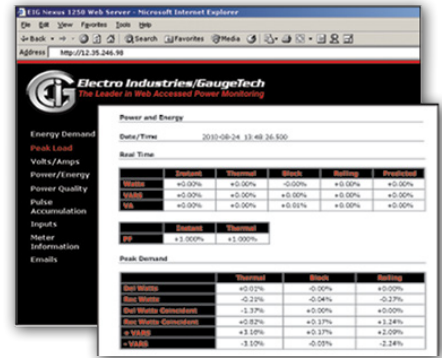
**WEBDNP**

Using this feature, you can gain access to the meter speaking native DNP over Ethernet. This allows the unit to open an exclusive network socket for DNP 3.0. Using this unique technology, all other meter web

features are available simultaneously. Even with DNP 3.0 over the Ethernet, you still have access to multiple Modbus sockets, email alarms, web servers and many other communication features.

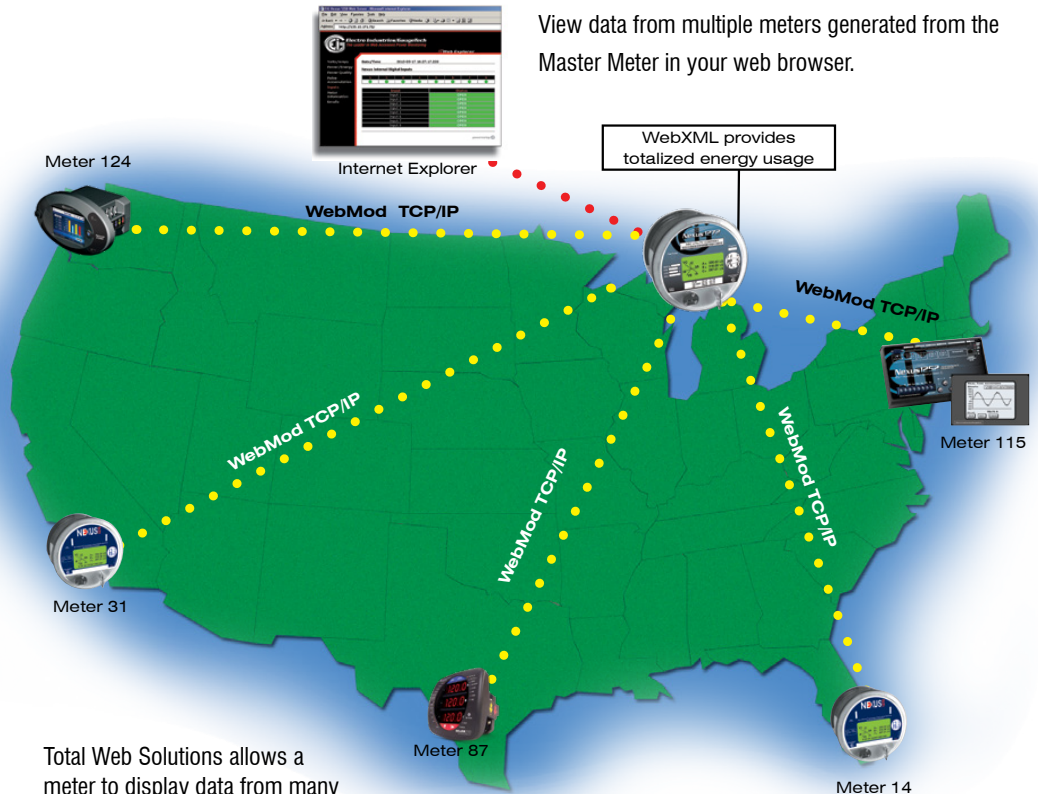
**WEBMOD**

(Open Architecture 3rd Party Integration)



The 10/100BaseT design allows the unit to speak with 12 simultaneous sockets of Modbus TCP. EIG's WebMod features Modbus TCP open protocol that can be easily integrated with most other software or hardware. And, with the built-in Modbus data concentrator, you can poll up to 8 devices or 512 unique polling items from any device that can speak Modbus RTU and/or Modbus TCP protocols.

View data from multiple meters generated from the Master Meter in your web browser.



Total Web Solutions allows a meter to display data from many remote meters.



The processing capability and accuracy of the Nexus® 1272 meter makes it possible to gather power quality information with unmatched precision. The Nexus® 1272 unit is ideally suited for application on all critical loads. From health care to micro-electronics, the 1272 has what it takes to capture every anomaly. This insures that when there is a power problem, you have the information required to act. All Power Quality logs are time stamped to the nearest millisecond to insure accurate recording. The meter's Advanced Download Logic collects only new data, to minimize download times.

## EVENT/OUT OF LIMIT LOG

- Records 1024 Events
- Out of Limit Recording
- High-Speed Input Event Recording
- Outage Detection
- Extensive Limit Setting Capabilities with Multiple Limits per Selected Quantity

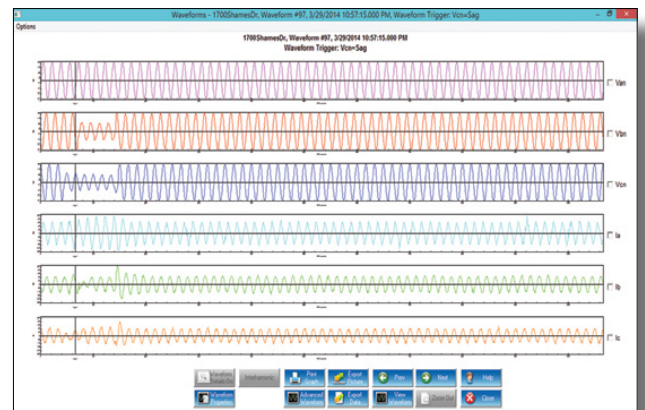
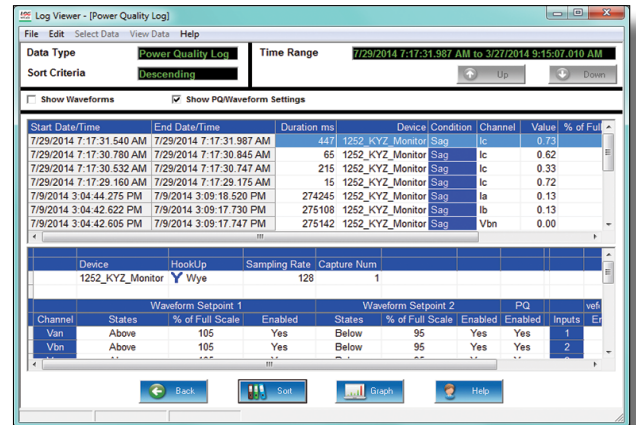
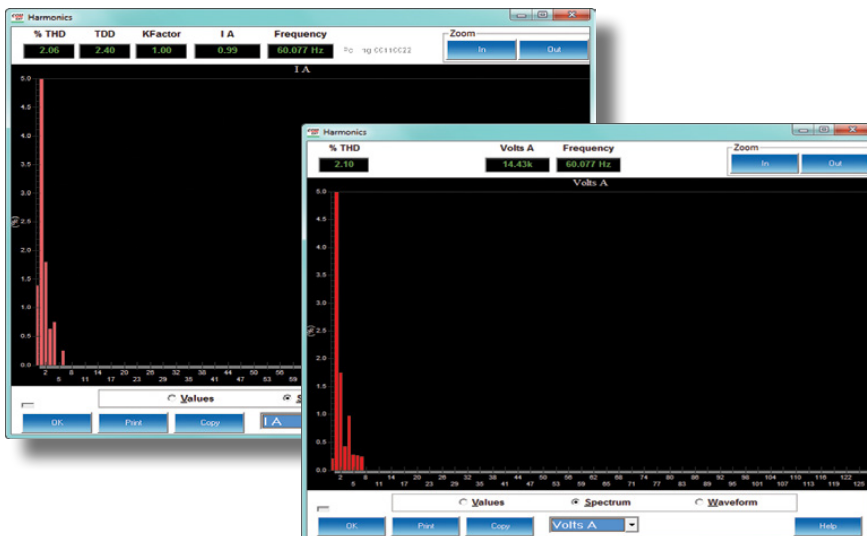
## WAVEFORM LOG

The waveform recording capability of the Nexus® 1272 unit is unparalleled by any other meter. Waveform records of this quality have historically been reserved only for transmission lines. The power of the Nexus® 1272 meter now makes this quality available to your critical customers.

- Extraordinary Resolution through 16-bit A/D Input
- Sample Rates from 16 to 512 Samples per Cycle
- Total Recording Time Over 100 Seconds
- Up to Six Channels
- Voltage and Current Triggers
- External Event Trigger
- Voltage Surge/Sag Recording
- Current Fault Analysis

## HARMONIC DISTORTION ANALYSIS

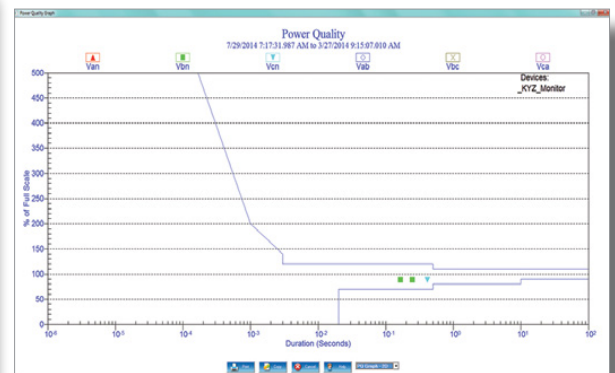
- Log Harmonics into Historical Log for Later Analysis
- Recorded Waveforms Provide Harmonics to the 255th Order
- View Waveform Record



## CBEMA/ITIC LOG

The separate CBEMA/ITIC Log captures all voltage transients that fall outside these standards. The onboard log holds 1024 events. The data is downloaded to a separate log in the meter database for easy analysis. See all voltage disturbances on one screen through the Communicator EXT™ software.

- Sag/Swell Analysis
- Transient Recording



The accuracy and precision of the Nexus® 1272 meter, coupled with its extraordinary logging capability, makes it an ideal tool for system performance and reliability analysis. For the first time, at the revenue metering site, users have the accuracy and precision of a digital fault recorder without the expense. The Nexus® 1272 meter's 16-bit ADC accuracy and resolution for waveform records actually exceeds many digital fault recorder products. Combine the Nexus® 1272 unit with EIG's suite of software solutions to further expand the level of understanding during any monitoring situation.

## COMMUNICATOR EXT™ SOFTWARE FAULT ANALYSIS

- Compares Multiple Fault Records
- Measures Waveform Traces
- Inserts Timing Marks to Analyze Waveform Transients
- Displays CBEMA Logs
- PQDIF File Format Converter Allows Nexus® Data to be Read by Standard EPRI Power Quality Viewing Software

### AT THE INTERCHANGE POINT

The Nexus® meter gives you the power of a sequence of events recorder on every transmission line or interchange point. The unit is always watching, and has extended memory capability which can record multiple faults, or even frequency swings, during stability problems. Capture all voltages and currents.

- COMTRADE File Converter Changes Fault Records to Standard Fault Analysis File Formats



### AT THE CUSTOMER

When that key customer calls, simply perform a download from the Nexus® 1272 meter. In a few minutes, all the data related to any event is on your desktop, letting you find the answers the customer needs.

Need to perform a more detailed evaluation? Simply open the viewer to look at the waveforms and see exactly what happened to voltages and currents throughout the event. Only the Nexus® meter provides precise pictures for many seconds.

Download the data and open the files with Communicator EXT™ software. Compare multiple channels; measure amplitudes and timing with millisecond resolution; see system reliability events that lasted for several seconds.

### TEST PROTECTIVE EQUIPMENT

Need to test protective equipment performance? Simply take the Nexus® record and convert it to COMTRADE format. Insert the file directly to protective test equipment to verify relay performance.

## Supported Meter Forms

| FORM | RATED VOLTAGE     | HOOKUP                            |
|------|-------------------|-----------------------------------|
| 9S   | 0 to 277 V<br>L-N | 3E, 4 wire, Wye                   |
| 36S  | 0 to 277 V<br>L-N | 2½ E, 4 wire, Wye                 |
| 45S  | 0 to 480 V<br>L-L | 2E, 3 wire, Delta                 |
| SWB2 | 0 to 277 V        | Programmable<br>(Universal Forms) |
| 9A   | 0 to 277 V<br>L-N | A Base Form                       |

## Accuracy

| PARAMETER  | ACCURACY |
|------------|----------|
| Voltage    | 0.02%    |
| Current    | 0.05%    |
| Frequency  | 0.001 Hz |
| W          | 0.06%    |
| Wh @1.0 PF | 0.06%    |
| Wh @0.5 PF | 0.10%    |
| VAR        | 0.10%    |
| VA         | 0.10%    |
| PF         | 0.10%    |

**MULTIPLE MEMORY LOGS**

Nexus® meters provide many logs to record historical, alarm and system event data. These logs can be used for profiling, recording events and logging electrical power parameters over time. Additionally, using the advanced I/O available with the product, you can also log process measurements, including temperature, pressure, flow, etc.

**TWO HISTORICAL TREND LOGS**

These logs allow you to trend virtually any electrical parameter over time. This includes all electrical and I/O parameters.

- Up To 64 Values per Log
- Programmable Trend Times
- Provides Magnitude and Duration of Event
- Millisecond Resolution
- 2 Separately Programmable Logs
- Separately Recorded Time Base
- Records Alarms for Electrical and I/O Channels

**OUT OF LIMITS LOG**

This log records all out-of-limit alarms, including the magnitude and the duration of the alarm.

**SYSTEM EVENTS LOG**

The unit records the following system events for security and anti-tampering.

- Power Up
- Power Down
- Password Access
- Password Modification
- Change of Programmable Settings
- Change of a Run Time
- Change of Clock Time by Communication (Modbus or DNP)
- Test Mode Usage
- Meter Resets (Logs, Max/Min, Energy)

**INPUT STATUS LOG**

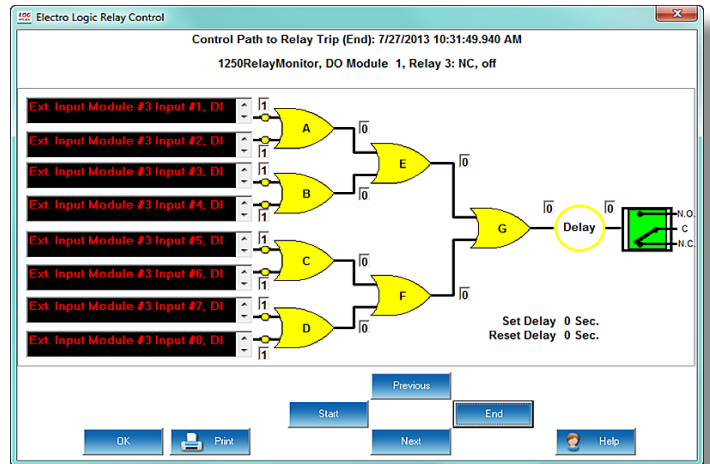
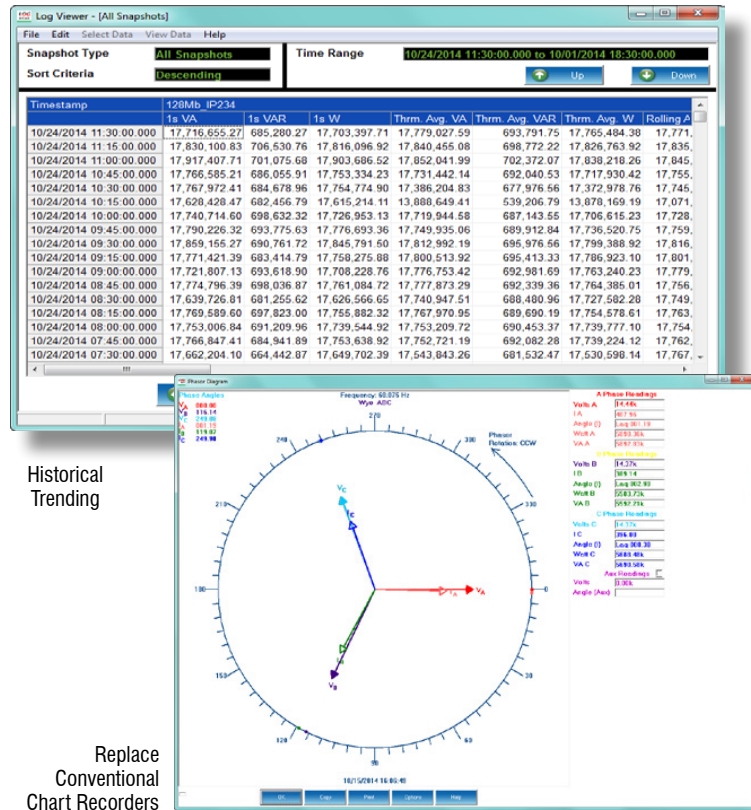
This log records when a digital status change occurred in either the internal or external inputs.

- Status Log for External Events
- Internally Labeled to Define Events

**CONTROL OUTPUT LOG**

This log records the logic and state that triggered a control output. The graphical log shows all the steps that led up to the event.

- Displays Pre and Post-Analysis
- Internally Labeled to Define Events
- Advanced I/O Analysis



**Logging Specifications**

| MODEL | HISTORICAL LOG 1 | HISTORICAL LOG 2 | CBEMA/ITIC | OUT OF LIMIT LOG | WAVEFORM LOG | OUTPUT LOG | INPUT LOG | SYSTEM EVENTS |
|-------|------------------|------------------|------------|------------------|--------------|------------|-----------|---------------|
| 1272  | 555 Days         | 133 Days         | 512        | 1024             | 95           | 256        | 1024      | 1024          |
| 1262  | 480 Days         | 133 Days         | N/A        | 512              | N/A          | 512        | 1024      | 1024          |

1 Assumes logs store 4 scaled energy readings every 15 minutes  
 2 Number of events recorded (assumes 14 parameters monitored)

3 Number of waveform records - each record may be from 8 to 64 cycles in duration depending upon meter setup



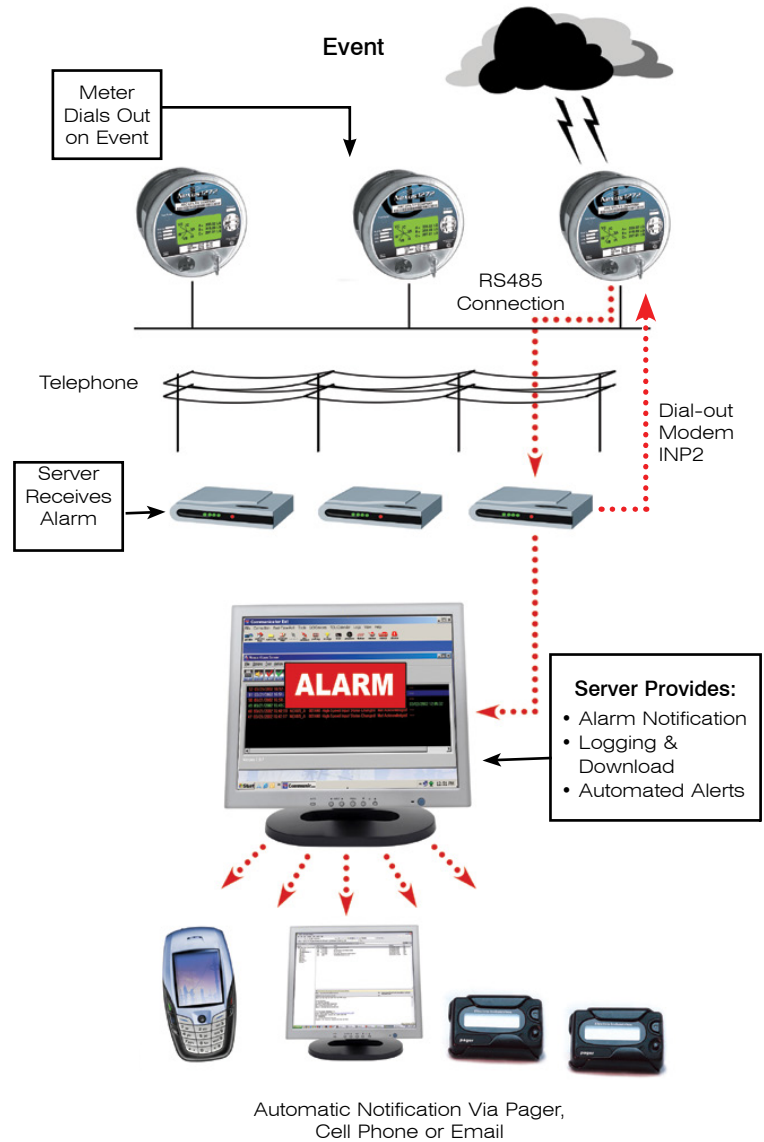
## DIAL-OUT ON OUTAGE

The INP2 modem has a dial-out circuit with a battery that detects when voltage is lost and dials out to provide outage notification. Additionally, the circuit can be configured to dial out when many other circumstances occur. The Nexus® 1262/1272 meter dials to the EIG Dial-In Server, which allows users to be paged or emailed with notification of events. When the modem option card is installed, the meter also includes a gateway port. This allows the meter to act as a master for up to 7 additional meters and dial out on alarm for any of these meters.

## DIAL-OUT FOR OTHER EVENTS

The meter will dial out for the following circumstances:

- Limits/Status Change
- High Speed Input Change
- Waveform Record Capture
- CBEMA Power Quality Event
- Control Output Change
- Cycling of Control Power
- Password Failure on a Call Coming into the Modem
- Meter Communication Failure



**Modem Programming**

**Primary phone number settings**

Number: [ ]  
 Retry delay: 5 Minutes  
 Retry limit: 5 Attempts  
 Connection type: Computer

**Secondary phone number settings**

Number: [ ]  
 Retry delay: 5 Minutes  
 Retry limit: 5 Attempts  
 Connection type: Computer

**Communications settings**

Inactivity timeout limit: 30 Minutes  
 Call delay timer limit: 5 Seconds  
 Callback type: Playback  
 Call failure reset limit: 1 Hours  
 Share the phone line:

**Modem settings**

Rings to answer: 3 Rings  
 Identification: [ ]  
 Password: [ ]  
 Enable password:   
 Violation limit: 3 Attempts  
 Violation lockout time: 10 Hours

**Dial out on the following conditions**

Limits status change     CBEMA Power quality event     Cycling of control power  
 High speed input change     Control output change     Modem password failure  
 Waveform record captured     Filling of meter memory     Failure of communication with Device

Log full limit threshold (All Logs): 50 %    Edit gateway port devices

OK    Cancel    Help

Dial-Out Logic

## DIAL-IN SERVER CAPABILITIES

The EIG Dial-In Server records all notifications, accepts downloads from the meter and allows users to be notified by email and pager, automatically. Features of the Dial-In Server include:

- Unlimited Meters
- Email Notification
- Audible System Alarm
- Scalable Multi-server Architecture
- Paging Notification

**Dial-In Settings**

**Limits status change**

Retrieve: Limit log  
 Reset all logs after retrieval  
 Generate email     Call pager

**High speed input change**

Retrieve: Digital input log  
 Reset all logs after retrieval  
 Generate email     Call pager

**Control output change**

Retrieve: Digital output log  
 Reset all logs after retrieval  
 Generate email     Call pager

**Waveform record capture**

Retrieve: Waveforms log  
 Reset all logs after retrieval  
 Generate email     Call pager

**CBEMA Power quality event**

Retrieve: PQ(CBEMA) log  
 Reset all logs after retrieval  
 Generate email     Call pager

**Filling of log memory**

Retrieve: Filled log  
 Reset all logs after retrieval  
 Generate email     Call pager

**Cycling of control power**

Generate email    Call pager  
 Generate email     Call pager

**Modern password failure**

Failure of communication with the Device  
 Generate email     Call pager

**Email and pager settings**

Outgoing mail server: [ ]    Sender: [ ]    Communicator: [ ]    Pager ID #: [ ]  
 Reply address: [ ]    Part number: [ ]    Text email: [ ]    Text pager: [ ]

**Recipients**

Mail Address: [ ]    Pager Number: [ ]    (Click Double Click to Edit)  
 Text: [ ]    Add    Remove

**User defined message**

OK    Cancel    Print    Help

Dial-In Settings

## MULTI-LEVEL SECURE COMMUNICATION

The Nexus® 1272 meter offers 9 levels of password security to protect the meter from unauthorized use. Each level can be configured to enable specific capabilities, so that a Utility can control access to functions according to the type of user. For example, one user level is able to create and change TOU calendars, while a different user level is able to read TOU data, but not change anything.

**Protection Status**

Extended Passwords    Extended Password Information

Security Type: Extended Passwords  
 Status: Enabled, Sealing Switch Not Installed

Active Profile: Eng2  
 Profile Capabilities: User Level

| Capabilities                       | Allowed |
|------------------------------------|---------|
| Read TOU Data                      | X       |
| Access External Devices (RW)       | X       |
| Modify Preset Energy               | X       |
| Modify CT/PT Compensation          | X       |
| Modify Date/Time                   | X       |
| Modify TOU Calendars               | X       |
| Update Firmware                    | X       |
| Modify Programmable Settings       | X       |
| Retrieve Power Quality Log Data    | X       |
| Retrieve Trending and I/O Log Data | X       |
| Reset Demand                       | X       |
| Reset Power Quality Log Data       | X       |
| Reset Trending and I/O Log Data    | X       |

OK

**Protection Status**

Extended Passwords    Extended Password Information

Security Type: Extended Passwords  
 Status: Enabled, Sealing Switch Not Installed

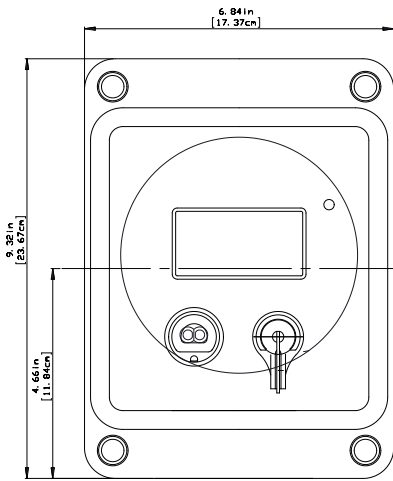
Active Profile: Administrator  
 Profile Capabilities: Admin Level

| Capabilities                       | Allowed |
|------------------------------------|---------|
| Read TOU Data                      | X       |
| Access External Devices (RW)       | X       |
| Modify Preset Energy               | X       |
| Modify CT/PT Compensation          | X       |
| Modify Date/Time                   | X       |
| Modify TOU Calendars               | X       |
| Update Firmware                    | X       |
| Modify Programmable Settings       | X       |
| Retrieve Power Quality Log Data    | X       |
| Retrieve Trending and I/O Log Data | X       |
| Reset Demand                       | X       |
| Reset Power Quality Log Data       | X       |
| Reset Trending and I/O Log Data    | X       |

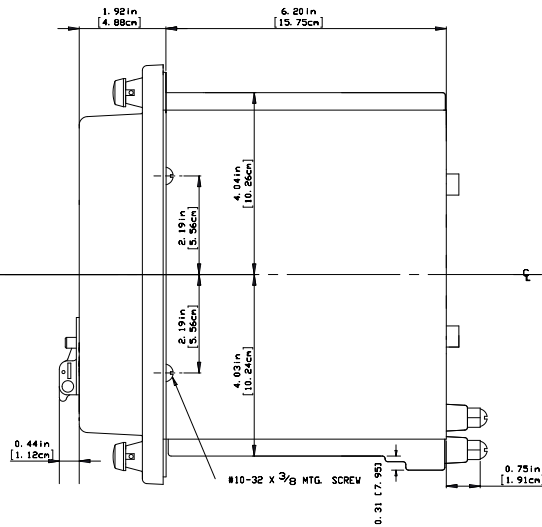
OK

# Dimensions and Mounting

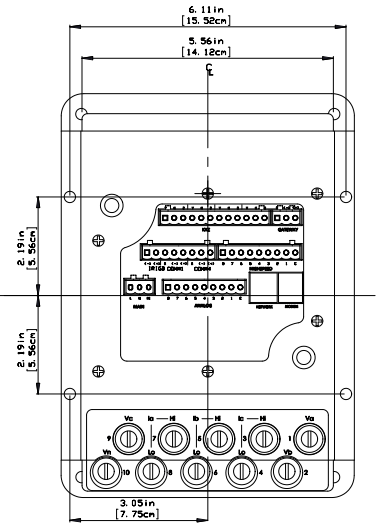
Nexus® 1262/1272 Switchboard Case  
Front View



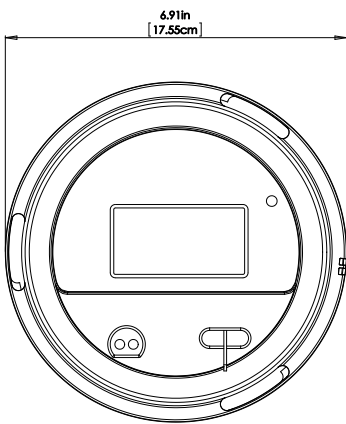
Side View



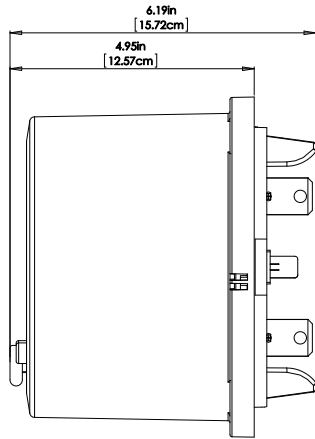
Back View



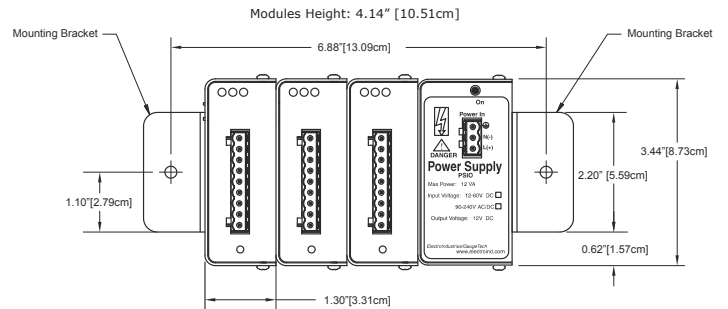
Nexus® 1262/1272 S-Base Case  
Front View



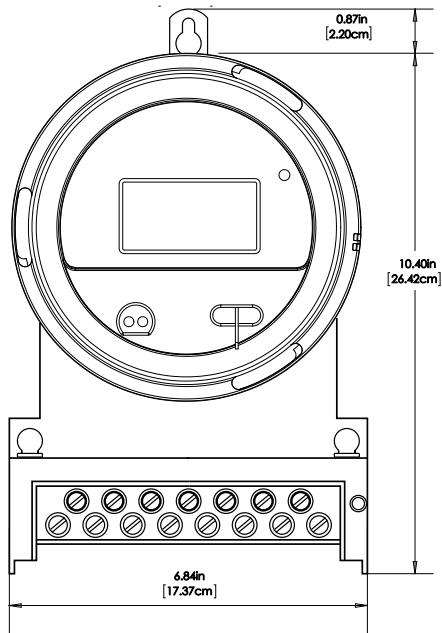
Side View



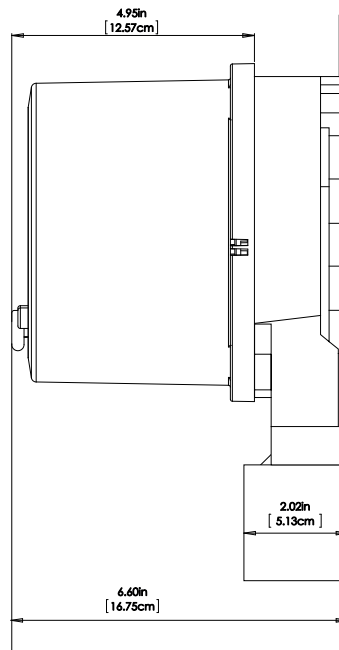
Nexus® I/O Modules Front View



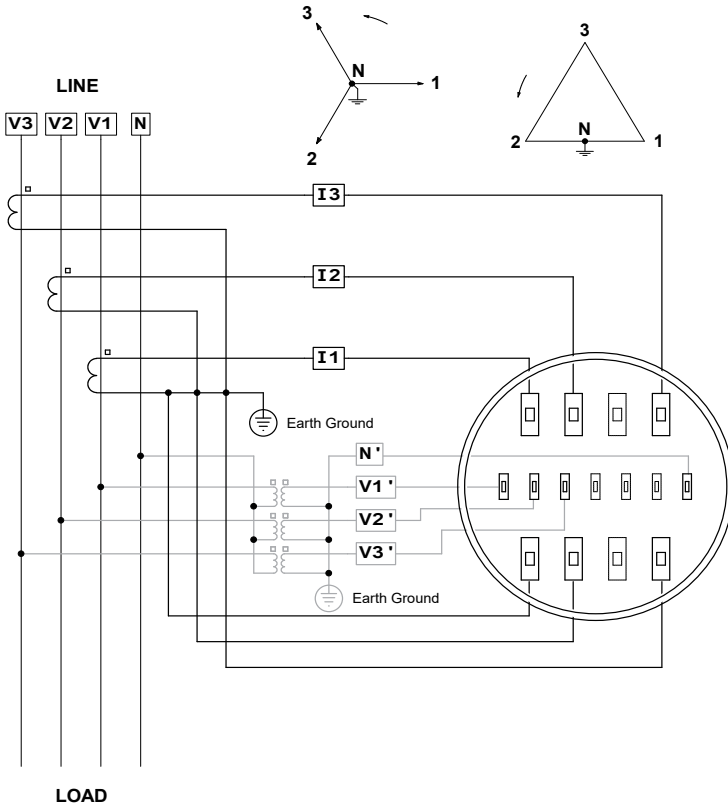
Nexus® 1262/1272 A-Base Case  
Front View



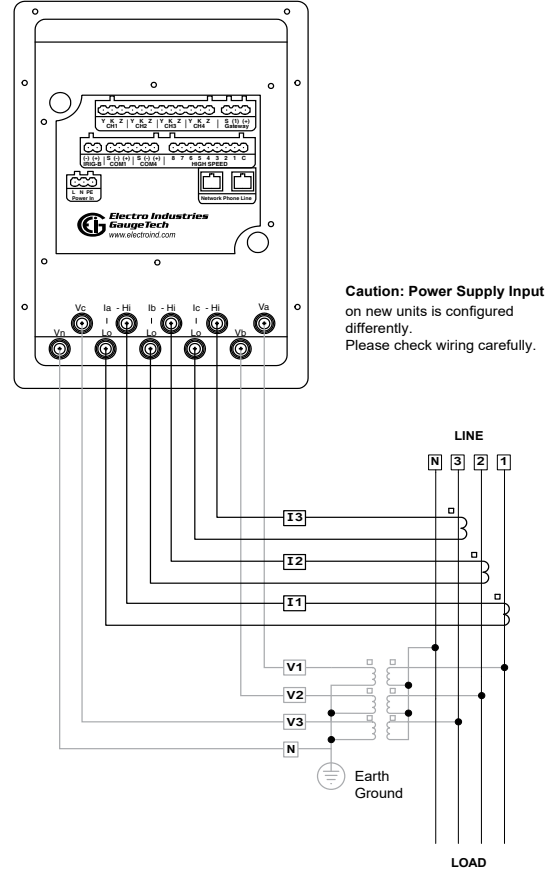
Side View



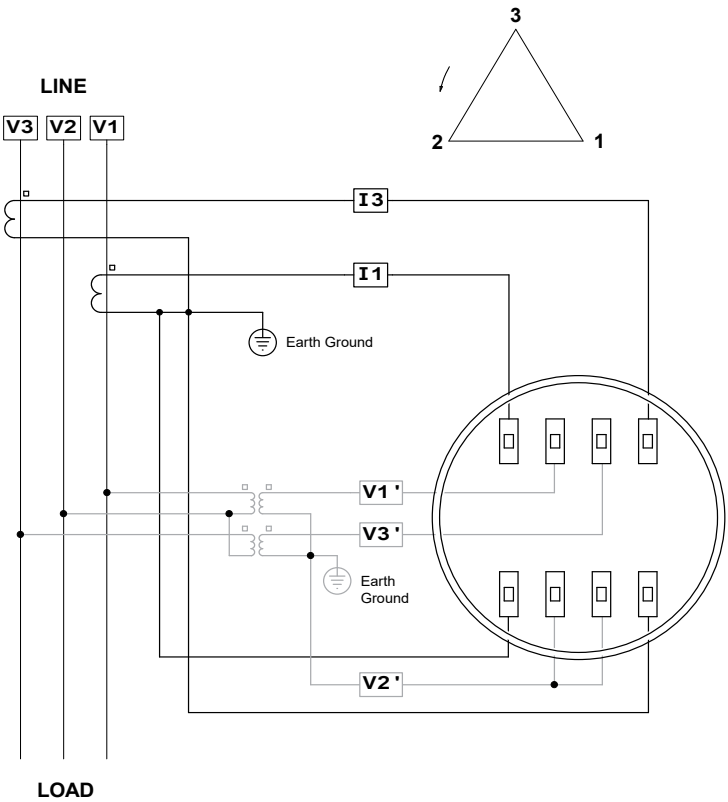
Form 9S, 4-Wire Wye and Delta



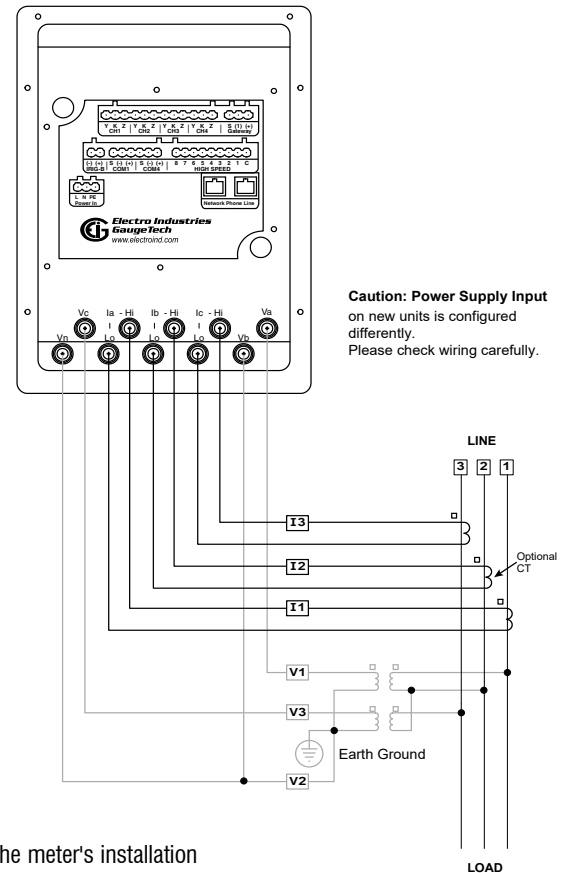
Switchboard Mount, 4-Wire Delta



Form 45S, 3-Wire Delta



Switchboard Mount, 3-Wire Delta



**Note:** Additional configurations are available - see the meter's installation manual for more options.



# Specifications

## SENSE INPUTS: CURRENT (ac)

- Transformer (CT) rated
- 2 or 3 current inputs depending on Form (Ia, Ib, Ic)
- Class 2 – 1 A nominal, burden 0.000312 VA@2.5 A
- Class 10, 20 – 5 A nominal, burden 0.0125 VA@25 A
- 0.1% of nominal pickup current
- 120% over range of Meter Class
- Current surge withstand (at 23 °C) - 100 A for 10 seconds, 300 A for 3 seconds, 500 A for 1 second

## VOLTAGE (ac)

- Blade powered unit, standard voltage (option S): 480 V max between Vref and Va, Vb, Vc inputs; Burden total 12 VA max (including power supply); 600 V max between Va, Vb, Vc inputs
- Blade powered unit low voltage (option LV): 69 V max between Vref and Va, Vb, Vc inputs; Burden total 12 VA max (including power supply); 120 V max between Va, Vb, Vc inputs
- Externally powered units (options SE, DE): 480 V max between Vref and Va, Vb, Vc inputs; Burden 0.33 VA@576 V; 600 V max between Va, Vb, Vc inputs
- Input impedance 1 Mohm/phase
- 20% over range of rated voltage
- 2 V pickup voltage

## EXTERNAL POWER SUPPLY OPTIONS NOMINAL RATING

- Standard external (option SE): 102 to 270 V AC/DC @50/60 Hz; 12 VA max
- Low voltage external (option DE): (18 to 60) V DC Burden 9 W max
- Separate power cord
- Switchboard meter is always separately powered (option SE or DE)

## ISOLATION

- All Inputs and Outputs isolated to 2500 V
- Com Ports isolated from each other to 1000 V

## SENSING

- Accu-Measure™ Auto-calibration
- 16 bit A/D Inputs
- True RMS
- 8 Channel Sample & Hold

## MEMORY

- All Meter Setup Parameters, Measurements & Logs Contained in Nonvolatile Memory

## STANDARD COMMUNICATION

- IR Port/ANSI
- Two RS485 Serial Ports
- Modbus RTU, Modbus ASCII, DNP 3.0
- Data Speeds of up to 115200 bps
- Eight High-Speed Input Channels

## OPTIONAL COMMUNICATION

- 56k Modem with Dial-Out Capabilities
- Internal 10/100BaseT with Total Web Solutions
- Modem/Ethernet Combo Card
- Modbus TCP and DNP LAN/WAN

## INTERNAL 8ch DIGITAL INPUTS

- Type: Self Excited, for Dry Contacts Only
- Internal Wetting Voltage: 12 VDC Typical

## INTERNAL 4ch SOLID STATE OUTPUTS (KYZ)

- Type: Form C contacts, pulse or transition based counts
- On Resistance: (23-35) Ω
- Peak Voltage: 350 V DC
- Continuous Load Current: 120 mA
- Peak Load Current: 350 mA (10 ms)
- Off State Leakage Current @350 V DC: 1: μ A

- Opto Isolation: 3750 V rms (60 Hz, 1 minute)

## CLOCK TIMING

- Internal Clock Crystal - Accuracy Better than 2 Minutes per Month
- IRIG-B Input for Synchronizing to External GPS Clock Signal - Accuracy Better than 1 msec per Month
- Line Frequency Clock Synchronization - Accuracy Better than 1 Second per Month

## ENVIRONMENTAL

- Operating Temperature: (-40 to +85) °C
- Display Temperature: (-20 to +60) °C
- Raintight Lexan Cover (Socket meter)
- Temperature Specifications to Indirect Sunlight

## SECURITY

- Hardware Lock Secures Meter Settings
- Up to 9 10-Character Passwords
- One Password Controls Access to Read Meter Digitally
- Separate Password Controls Access to Program Meter
- Additional 8 level password sequence available by user configuration

## DISPLAY

- Type: FSTN Liquid Crystal Display (LCD)
- Resolution: 128 x 64 pixels
- Size: 72 (H) mm x 32 (W) mm (2.8" x 1.26")
- Temperature: Operational from (-20 to +60) °C
- Backlight: LED (Green)

## SHIPPING

- Weight: Socket: 10 Lbs; Switchboard: 16 Lbs
- Dimensions: Socket: 13" x 10" x 11"; Switchboard:
- 16" x 14" x 11"

## APPROVALS

- IEC 60687 - KEMA Certified
- IEC 62053-22 - KEMA Certified
- California ISO
- NY State Public Service Commission
- USDA Technical Standards Committee Rural Development Unit
- ISO California
- NMI - Brazil
- CEEE - Brazil
- Union Fenosa - Spain
- CAM - Endesa Chile
- China EPRI
- North China EPRI
- Northwest China EPRI
- East China EPRI
- ATS - Korea

## COMPLIANCE STANDARDS

- ANSI C12.20 Accuracy
- ANSI/IEEE C37.90.1 Surge Withstand
- ANSI C62.41 Surge Immunity
- IEC/CISPR 14-1 Continuous EM Disturbance
- IEC 61000-4-2 (EN 61000-4-2 / IEC 801-2): Electrostatic Discharge
- IEC 61000-4-3 (EN 61000-4-3 / IEC 801-3): Radiated EM Field Immunity
- IEC 61000-4-4 (EN 61000-4-4 / IEC 801-4): Electric Fast Transient
- IEC 61000-4-5 (EN 61000-4-5 / IEC 801-5): Surge Immunity
- IEC 61000-4-6 (EN 61000-4-6 / IEC 801-6): Conducted Immunity
- IEC 60687 Class 0.2 Accuracy
- IEC 62053-22 Class 0.2 Accuracy
- IEC 62052-11 General Requirements
- IEC 62053-22 Mechanical Properties Climactic Influences

**Note:** Please see Product manual for comprehensive specifications.

## Ordering Information (To order, please use this guide)

| Option Numbers: | Model | Memory        | Form                  | Class (Amps) | Frequency   | Power Supply <sup>1</sup>          | Optional Communication                               |
|-----------------|-------|---------------|-----------------------|--------------|-------------|------------------------------------|--|
| Example:        | 1272  | A             | 9S                    | 20           | 60          | DE                                 | INP200   |
|                 | 1272  | A<br>Advanced | 9S                    | 2<br>2 A     | 50<br>50 Hz | S<br>Std Blade Powered             | X<br>No Optional Com                                 |
|                 | 1262  |               | 36S                   | 10<br>10 A   | 60<br>60 Hz | SE<br>Std Ext<br>(102-270) V AC/DC | INP2<br>Modem<br>with Dial-Out                       |
|                 |       |               | 45S                   | 20<br>20 A   |             | DE<br>DC Ext<br>(18-60) V DC       | INP200<br>10/100BaseT Ethernet                       |
|                 |       |               | SWB2<br>(Switchboard) |              |             | LV<br>69 V AC<br>Blade Powered     | INP202<br>Modem &<br>Ethernet Combo<br>(No Dial-Out) |
|                 |       |               | 9A<br>(A Base)        |              |             |                                    |  |

<sup>1</sup> Switchboard Meter Only Supports SE or DE Options.

## Accessory Options

### OPTIONAL I/O MODULES

- 1mAON4 4 Analog Outputs, 0±1mA
- 1mAON8 8 Analog Outputs, 0±1mA
- 20mAON4 4 Analog Outputs, 4-20mA
- 20mAON8 8 Analog Outputs, 4-20mA
- 4RO1 4 Relay Outputs
- 4PO1 4 Solid State Pulse Outputs
- 8AI1 0±1mA, 8 Analog Inputs
- 8AI2 4-20mA, 8 Analog Inputs
- 8AI3 0±5VDC, 8 Analog Inputs
- 8AI4 0±10VDC, 8 Analog Inputs
- 8DI1 8 Status Inputs, Wet/Dry

### POWER OPTIONS

- PSIO I/O Power Supply (Required with I/O Module)
- BAT1 External Replaceable Battery for Dial Out on Outage

### MOUNTING OPTIONS

- MBIO I/O Module Mounting Bracket Power Supply and Mounting Bracket (Required with any I/O Option)

### SOFTWARE OPTIONS

- COMEXT4P Communicator EXT™ Software Single-Computer License (One Site)
- DISEXT.1C Dial-In Server Single-Computer License (One Site)



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