



# Power Analysis Managed Service

Offer Introduction

Presented by: Abby Scholl

# Agenda

- Power Solutions Services
- Power Analysis
  - Current Offer
  - Success Stories
  - Future Offer and Evolution
  - Q&A

# What does the offer look like?

## > New Features

> On-Demand Training

> Power Analysis


	Standard	Priority	Premium
<b>Ongoing Support and Troubleshooting</b> Enjoy peace of mind knowing superior technical support is always available			
Basic Product Support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Remote Access Troubleshooting		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dedicated Senior Support Engineer			<input checked="" type="checkbox"/>
24x7 Support		Option	Option
Software Assurance		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Robust Training Options</b> Get the most from your system with training online, on-site or at one of our state-of-the-art training centres			
Self-Help Web Portal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>NEW!</b> On-Demand Training		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Factory Training Courses (Buy 1/Get 1 Free)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Proactive Diagnostics and Maintenance</b> Ensure your system is functioning at peak performance and identify issues before they become problems			
<b>NEW!</b> Power Analysis Diagnostic Report <sup>1</sup> (Per Year) <i>*Requires client assistance with metering hierarchy</i>		Up to 2*	Up to 4*
Real-Time Monitoring			<input checked="" type="checkbox"/>
Monthly Maintenance Report			<input checked="" type="checkbox"/>
<b>Energy Management Services</b> Work with our experts to customize and maintain your energy management system to meet your individual needs			
Custom Services and Maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

# What is Power Analysis?

# Power Analysis – Metering Diagnostics

Ensuring you have accurate, reliable data so you can focus on the tasks that matter.

- **Data Accuracy.** With actionable reports and trending analysis, you can be sure that your system continues to give you the reliable data you need
- **Make Smarter Decisions.** Know that you are getting the right data so you can make better decisions for you and your business
- **Peace of Mind.** Rely on our experts to proactively check your system to detect possible lurking issues before they become a problem

**Executive Summary Diagnostic Report**  Power Analysis  
Page 1 of 2

**Report Summary**  
Report Run Date: 18-August-2014

Example Customer  
295 Tech Park Drive  
La Vergne, TN 37086


**79%** **SCORE**  
This number indicates the overall health of your Power Monitoring system. Bad scores may be appearing frequently as detected by Power Analysis. Please see below for a complete listing of all alerts.

**System Health Check**

**Issues detected in your system!**  
Based on Power Analysis's advanced analytics technology, we have detected issues within your Power Monitoring system that could cause inaccurate data, unreliable data or both to be presented to you and saved in the system. Making decisions based on this data is not recommended. Please refer to the detailed report for a deeper understanding of the possible causes and recommended actions for each of these events. We recommend contacting your Schneider Electric Technical Support Engineer for more details on how to improve the health of your Power Monitoring system.

System Issues Checked	Issue Description
✗ No Data In Query Period (1)	Device(s) missing data. Unable to perform some diagnostics on device(s).
✗ Device Not in Hierarchy (0)	Device(s) not in known hierarchy. Unable to perform some diagnostics on these device(s) until placed in hierarchy.
✓ Negative Values Present (0)	Device(s) logged a mix of negative and positive values in query period.
⚠ Consistently Negative Values (1)	Device(s) logged consistently negative values over query period.
⚠ All Zero Values (2)	Device(s) returning consistently zero values.
⚠ Unchanging Value (1)	Logged values did not change over query period.
⚠ Energy Balance Violation (1)	Sum of children devices' energy consumption more than parent's consumption.
✓ Meter under/over reporting (0)	Device(s) suspected of either under or over reporting energy consumption.
✓ Meter Detection Threshold Too High (0)	Meter Detection Threshold Too High
✓ Irregular Data Logging Interval (0)	Irregular Data Logging Interval
✓ No common consumption measurement	No common consumption measurement between feeder and submitters (0)

©2014 Schneider Electric Industries SAS. All Rights Reserved. Schneider Electric. Make the most of your energy. Schneider Electric, PowerLogic, OLV, and Modbus are registered trademarks of Schneider Electric or its affiliates. Other marks used herein may be the property of their respective owners.



**Detailed Report Diagnostic Report**

**Potential Issue: Negative Values Present**  
Device(s) logged a mix of negative and positive values in query period.

**Possible Causes** | **Recommended Actions**

Zero values in cumulative energy log data. | Review the cumulative energy value reads or rollovers.

Possible single phase CT polarity error. | Have qualified personnel inspect the Dual load/generator. Confirm that an energy generating or your electrical network.

**Device Name** | **Device ID**

CDR\_CDR\_R\_10\_Main\_HPL2 | 157.198.208.21

**Potential Issue: Consistently Negative Values**  
Device(s) logged exclusively negative values in query period.

**Possible Causes** | **Recommended Actions**

Possible three phase CT polarity error. | Have qualified personnel inspect the installed backward, invert polarity on Generator operating during reporting period. Confirm that an energy generating or your electrical network.

**Device Name** | **Device ID**

CDR\_CDR\_115V\_Main | 10.168.100.89

**Potential Issue: All Zero Values**  
Device(s) logged consistently zero values over query period.

**Possible Causes** | **Recommended Actions**

Load has been removed. | Confirm that meter is attached to a circuit with a functioning load.

Stalled load currently unused (ex. Seasonal load, process driven). | Confirm that meter is attached to a circuit with a functioning load. Let open.

CT Shorting blocks left closed, voltage disconnects left open. | Have qualified personnel inspect the meter installation.

Breaker has tripped. | Check for presence of upstream breaker, confirm status.

Load needs repair. | Confirm that meter is attached to a circuit with a functioning load.

Communication error (non SE gateways &amp;amp; Check historical data for time of last communication, have qualified personnel inspect the meter installation.




Load too small for meter to detect. | Check CT ratio for oversized CTs. Check detection threshold for installed model of meter.

**Device Name** | **Device ID**

CDR\_CDR\_1\_C\_FeedsIns | 157.198.208.21

CDR\_CDR\_4C\_Feeds\_Shipping | 157.198.208.21


©2014 Schneider Electric Industries SAS. All Rights Reserved. Schneider Electric. Make the most of your energy. Schneider Electric, PowerLogic, OLV, and Modbus are registered trademarks of Schneider Electric or its affiliates. Other marks used herein may be the property of their respective owners.



# Power Analysis – Metering Diagnostics

Diagnostic reports on your system's health and status give actionable recommendations to ensure reliable data

- ✓ SE expert analysis
- ✓ Periodic diagnostic reporting on system
- ✓ Detailed device level data
- ✓ Electronically managed metering hierarchy
- ✓ Simplified troubleshooting
- ✓ Graphical trending and analysis
- ✓ Overall system health score

**Executive Summary Diagnostic Report**  Page 1 of 2

**Report Summary**  
Report Run Date: 18-August-2014

Example Customer  
295 Tech Park Drive  
La Vergne, TN 37086


**79%** **SCORE**  
This number indicates the overall score of your Power Monitoring system that appears to be operating correctly as detected by Power Analysis. Please see below for a complete listing of all health up.


**System Health Check**

**Issues detected in your system!**  
Based on Power Analysis's advanced analytics technology, we have detected issues within your Power Monitoring system that could cause inaccurate data, unavailable data or both to be presented to you and saved in the system. Making decisions based on this data is not recommended. Please refer to the detailed report for a deeper understanding of the possible causes and recommended actions for each of these events. We recommend contacting your Schneider Electric Technical Support Engineer for more details on how to improve the health of your Power Monitoring system.

System Issues Checked	Issue Description
✗ No Data in Query Period (1)	Device(s) missing data. Unable to perform some diagnostics on device(s).
✗ Device Not in Hierarchy (0)	Device(s) not in known hierarchy. Unable to perform some diagnostics on these device(s) until placed in hierarchy.
✗ Negative Values Present (0)	Device(s) logged a mix of negative and positive values in query period.
⚠ Consistently Negative Values (1)	Device(s) logged consistently negative values over query period.
⚠ All Zero Values (2)	Device(s) returning consistently zero values.
⚠ Unchanging Value (1)	Logged values did not change over query period.
⚠ Energy Balance Violation (1)	Sum of children device's energy consumption more than parent's consumption.
⚠ Meter under/over reporting (0)	Device(s) suspected of either under or over reporting energy consumption.
⚠ Meter Detection Threshold Too High (0)	Meter Detection Threshold Too High
⚠ Irregular Data Logging Interval (0)	Irregular Data Logging Interval
⚠ No common consumption measurement	No common consumption measurement between feeder and submitters

©2014 Schneider Electric Industries S.A. All Rights Reserved. Schneider Electric. Make the most of your energy. Share it. Power up. Live On. And avoid an expensive investment of Schneider Electric, if it fails. Other marks used herein may be the property of their respective owners.



**Detailed Report Diagnostic Report**  Page 2 of 4

**Potential Issue: Negative Values Present**  
Device(s) logged a mix of negative and positive values in query period.

Possible Causes	Recommended Actions
Zero values in cumulative energy log data.	Review the cumulative energy values looking for zero values, resets or rollovers.
Possible single phase CT polarity error.	Have qualified personnel inspect the meter installation.
Dual load/generator.	Confirm that an energy generating device is putting energy on your electrical network.

Device Name: CDR\_CDR\_5\_10\_Main\_HPL2  
157.168.208.21

**Potential Issue: Consistently Negative Values**  
Device(s) logged exclusively negative values in query period.

Possible Causes	Recommended Actions
Possible three phase CT polarity error.	Have qualified personnel inspect the meter installation. If CTs installed backward, invert polarity in meter setup.
Generator operating during reporting period.	Confirm that an energy generating device is putting energy on your electrical network.


Device Name: CDR\_CDR\_1154V\_Main  
10.166.100.50

**Potential Issue: All Zero Values**  
Device(s) logged consistently zero values over query period.

Possible Causes	Recommended Actions
Load has been removed.	Confirm that meter is attached to a circuit with a functioning load.
Attached load currently unused (ex. Seasonal load, process driven).	Confirm that meter is attached to a circuit with a functioning load.
CT Shorting blocks left closed, voltage disconnects left open.	Have qualified personnel inspect the meter installation.
Breaker has tripped.	Check for presence of upstream breaker, confirm status.
Load needs reset.	Confirm that meter is attached to a circuit with a functioning load.
Communication error (non SE gateways &amp;amp; personal devices).	Check historical data for time of last communication, have qualified personnel inspect the meter installation.
Load too small for meter to detect.	Check CT ratio for oversized CTs. Check detection threshold for installed model of meter.

Device Name: CDR\_CDR\_1\_L\_C\_FeedsIns  
157.168.208.21

Device Name: CDR\_CDR\_4C\_Feet\_Shipping  
157.168.208.21



# Power Analysis Metering Diagnostics – Reports

## Executive Summary Diagnostic Report

Power Analysis

### Report Summary

Report Run Date: 18-August-2014

Example Customer  
295 Tech Park Drive  
La Vergne, TN 37086

### System Health Check

**79%** SCORE

This number indicates the overall score of your Power Monitoring system that appears to be operating correctly as detected by Power Analysis. Please see below for a complete listing of all tests run.

#### Issues detected in your system!

Based on Power Analysis's advanced analytics technology, we have detected issues within your Power Monitoring system that could cause inaccurate data, unreliable data or both to be presented to you and your system. Making decisions based on this data is not recommended. Please refer to the report for a deeper understanding of the possible causes and recommended actions for each of the issues. We recommend contacting your Schneider Electric Technical Support Engineer for more information to improve the health of your Power Monitoring system.

Issue Checked	Issue Description
❌ No Data In Query Period (1)	Device(s) missing data. Unable to perform some diagnostics on device(s).
✅ Device Not in Hierarchy (0)	Device(s) not in known hierarchy. Unable to perform some diagnostics on these device(s) until placed in hierarchy.
✅ Negative Values Present (0)	Device(s) logged a mix of negative and positive values in query period.
⚠️ Consistently Negative Values (1)	Device(s) logged consistently negative values over query period.
⚠️ All Zero Values (2)	Device(s) returning consistently zero values.
⚠️ Unchanging Value (1)	Logged values did not change over query period.
⚠️ Energy Balance Violation (1)	Sum of children devices' energy consumption more than parent's consumption.
✅ Meter under/over reporting (0)	Device(s) suspected of either under or over reporting energy consumption.
✅ Meter Detection Threshold Too High (0)	Meter Detection Threshold Too High
✅ Irregular Data Logging Interval (0)	Irregular Data Logging Interval
✅ No common consumption measurement between feeder and submeters (0)	No common consumption measurement between feeder and submeters

©2014 Schneider Electric Industries SAS. All Rights Reserved. Schneider Electric. Make the most of your energy. Square D, PowerLogic, ION, and Modbus are registered trademarks of Schneider Electric, or its affiliates. Other marks used herein may be the property of their respective owners.

Schneider Electric

Overall system health score

Complete list of diagnostics tests

## Detailed Report Diagnostic Report

Power Analysis

Page 2 of 4

### Potential Issue: Negative Values Present

Device(s) logged a mix of negative and positive values in query period.

Possible Causes	Recommended Actions
Zero value in cumulative energy log data.	Review the cumulative energy values looking for zero values, meter swaps or rollovers.
Possible single phase CT polarity error.	Have qualified personnel inspect the meter installation.
Dual load/generator.	Confirm that an energy generating device is putting energy back into your electrical network.

Device Name: CDR.CDR\_9\_10\_Main\_HPL2  
Device Location: 157.168.208.21

### Potential Issue: Consistently Negative Values

Device(s) logged exclusively negative values in query period.

Possible Causes	Recommended Actions
Possible three phase CT polarity error.	Have qualified personnel inspect the meter installation. If CTs are installed backward, invert polarity in meter setup.
Generator operating during reporting period.	Confirm that an energy generating device is putting energy back into your electrical network.

Device Name: CDR.CDR\_115kV\_Main  
Device Location: 10.168.109.89

### Potential Issue: All Zero Values

Device(s) logged consistently zero values over query period.

Possible Causes	Recommended Actions
Load has been removed.	Confirm that meter is attached to a circuit with a functioning load.
Attached load currently unused (ex. Seasonal load, process driven).	Confirm that meter is attached to a circuit with a functioning load.
CT Shorting blocks left closed, voltage disconnects left open.	Have qualified personnel inspect the meter installation.
Breaker has tripped.	Check for presence of upstream breaker, confirm status.
Load needs repair.	Confirm that meter is attached to a circuit with a functioning load.
Communication error (non SE gateways &amp; devices).	Check historical data for time of last communication, have qualified personnel inspect the meter installation.
Load too small for meter to detect.	Check CT ratio for oversized CTs. Check detection threshold for installed model of meter.

Device Name: 157.168.208.21  
Device Location: 157.168.208.21

©2014 Schneider Electric Industries SAS. All Rights Reserved. Schneider Electric. Make the most of your energy. Square D, PowerLogic, ION, and Modbus are registered trademarks of Schneider Electric, or its affiliates. Other marks used herein may be the property of their respective owners.

Schneider Electric

Device specific diagnostics

Detailed information on problem areas



# Current Diagnostic Tests

## Isolated Meter

- No Data In Query Period
- All Zero Values
- Device not in hierarchy
- Unchanging Value
- Negative Values Present
- Consistently Negative Values
- Irregular Device Logging Periods

## Metering Family Configuration

- Mismatched consumption measurements
- Mismatched logging intervals
- High speed logging intervals

## Energy Balance

- Energy Balance Violation
- Meter Underreporting or Overreporting Consumption
- Meter Detection Threshold Too High
- Misplaced Meter



# What are people saying?

# User Feedback & Stats

**7,800+** devices analyzed: **45%** reported **one or more issues**

“He **reached out to me**. So I see it as an effort from Schneider to make sure that my system is operating at a **peak efficiency**.”

**11%** reported **missing data** for query period

“We **reached a resolution** to a problem that had been plaguing me for some time...”

“...he found the problems that I didn't even know were there and fixed them. He **proactively fixed** them. He also **gave us the knowledge** to make sure that those problems didn't come up again.”

“Schneider Electric actually was chasing me to solve the issue, versus **I didn't have to chase anyone**.”

**6.5%** showed **misconfiguration or incorrect reporting**

# What's Next?

# Voltage Diagnostics

- Analysis on chronic, steady state conditions
  - Over/Under voltage and imbalance
- Evaluate transformer capacity issues

# Coming soon!



# Questions?

A photograph of a man in a light purple shirt sitting at a desk in an office. He is smiling and looking towards the left. He has glasses on his head. In front of him is a laptop. To his right is a blue filing cabinet with a pen holder containing several pens. The background is a blurred office environment with a window and some charts on the wall.

THANK YOU.

Life Is On

**Schneider**  
Electric