

RPM Report Writer Demo

Introduction

This is a summary of the power conditions at the PowerLines Sample site, as recorded at location PCDU Input#2. Data at this location was collected from 06/20/02 18:13:18 through 07/18/02 18:13:18.

This summary is composed of:

- The initial conditions section. This Section defines the power conditions at the above location.
- The Events section. This is a summary of the voltage events that occurred at this location during the monitor interval. Events are defined as changes in the monitored voltage. These changes may be subtle or severe. The power tolerance curve provides a graphical representation of the likelihood of an event to disrupt equipment operations.
- The Voltage Current and Frequency, (VIF), section. This section contains summaries for each of these parameters during the monitor interval.
- The Harmonics section. This contains the voltage and current harmonic, and harmonic distortion summaries acquired during the monitor interval.
- The Power section. This contains the VA, VARS., Watts, and Power factor acquired during the monitor interval. For multiphase locations, voltage and current imbalance are also included.

Site and Location Information

Site Information

Name	PowerLines Sample
Account Number	
Date and Time	06/20/02 18:10:25
Phone Number	
Contact	Debbie
Memo	
Problem Description	
Date First noticed	06/20/02
Problem Frequency	More than once a week
How problem exhibits itself	Unknown
Problem Cost	

Location Information

Name	PCDU Input#2
Power Type	Three phase wye
Feed Phase	Unknown
Phone	
Date and Time	08/01/02 11:43:19

Nominal Voltage	277 Volts
Nominal Frequency	60 Hz

Report Parameters

This report was prepared on 8/1/2002 by Report Writer Defaults of PowerLines for OEM Medical Systems. The following limits were used in analyzing the results.

Maximum Phase Voltage.	291 V
Minimum Phase Voltage.	263 V
Maximum Neutral Voltage.	3 V
Maximum Impulse Voltage.	50 V
Maximum. Waveshape Voltage.	5 V
Maximum Frequency Deviation.	.5 Hz
Minimum Power Factor.	.85
Maximum Voltage T.H.D.	5 %
Maximum Current T.H.D	20 %
Maximum Voltage Imbalance.	2 %
Maximum Current Imbalance.	10 %

Any values outside these limits are noted in the report. Values within the limits are considered to be within a safe operating range. These limits have been programmed by Report Writer Defaults.

Initial Conditions

A summary of all the electrical parameters at this location is presented in the tables and graphs below. Parameters marked with an ‘*’ lie outside the limits defined above.

Initial Power measurements for PowerLines Sample:PCDU Input#2 , 08/01/02 at 11:43:19

Measurement	Phase A	Phase B	Phase C	Neutral	Ground
True RMS. Voltage	287.1V	289.3V	287.1V	112.0mV	
Max. Peak to Peak Voltage	800.3V	809.2V	804.0V		
True RMS. Current	6.739A	7.145A	6.525A	23.60mA	2.515A
Max. Peak to Peak Current	23.25A	23.25A	20.14A		
Fundamental RMS. Voltage	287.1V	289.2V	287.1V		
Voltage Angle	0°	120.5°	241.1°		
Fundamental RMS. Current	6.215A	6.688A	4.016A		
Current Angle	227.2°	190.9°	305.7°		
Fundamental Impedance	46.19 Ohms	43.24 Ohms	71.48 Ohms		
Impedance Angle	132.7°	289.6°	295.4°		
Voltage Imbalance	0.48%				
Current Imbalance	28.7%*				
Total Voltage Harmonics	N/A	N/A	N/A	N/A	
Total Current Harmonics	N/A	N/A	N/A	N/A	N/A
True VA	N/A	N/A	N/A	N/A	
True VARS.	N/A	N/A	N/A	N/A	
True Watts	N/A	N/A	N/A	N/A	
Distortion	N/A	N/A	N/A	N/A	
True Power Factor	N/A*	N/A*	N/A*	N/A	
Fundamental VA	N/A	N/A	N/A	N/A	
Fundamental VARS.	N/A	N/A	N/A	N/A	
Fundamental Watts	N/A	N/A	N/A	N/A	
Fundamental Power Factor	N/A	N/A	N/A	N/A	

One or more of the Initial Conditions exceed the limits defined above. It is recommended that corrective action be implemented to reduce or eliminate these conditions.

Nominal Voltages

Phase Voltages:

Phase voltages that exceed the nominal voltage may damage sensitive electronic equipment or cause overheating. Low phase voltages may result in intermittent equipment operation and overheating.

Neutral and Neutral to Ground Voltages:

Excessive neutral voltages may indicate wiring problems exist or that the loads on the supply exceed the wiring rating.

Voltage and Current Imbalance

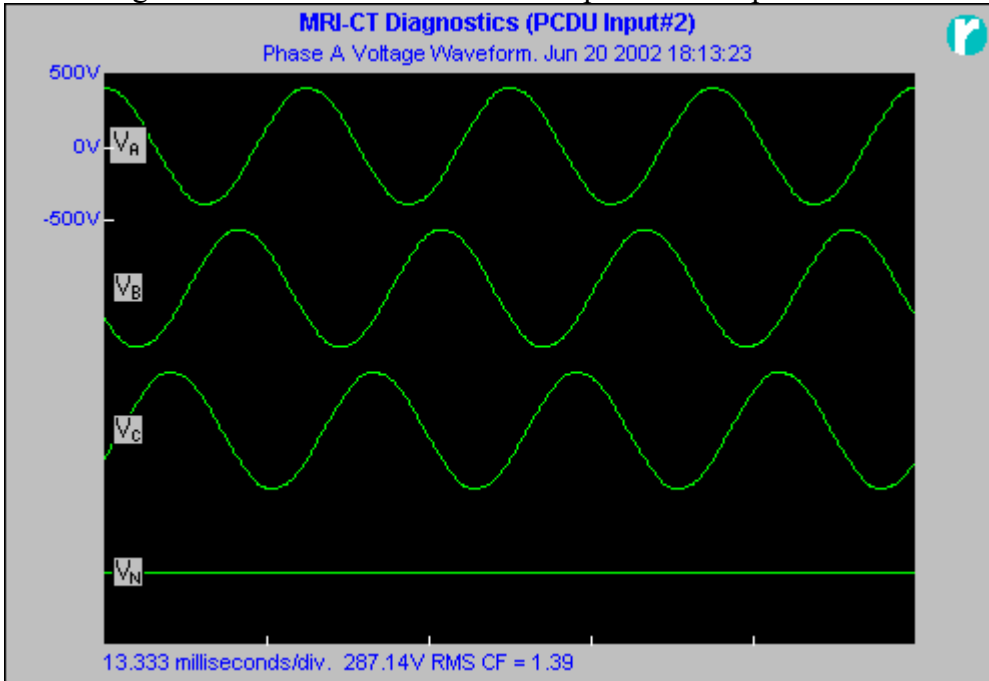
Voltage Imbalance:

Excessive Voltage Imbalance is an indication that one or two phases may be overloaded. A redistribution of the loads on one or more of the phases may be in order.

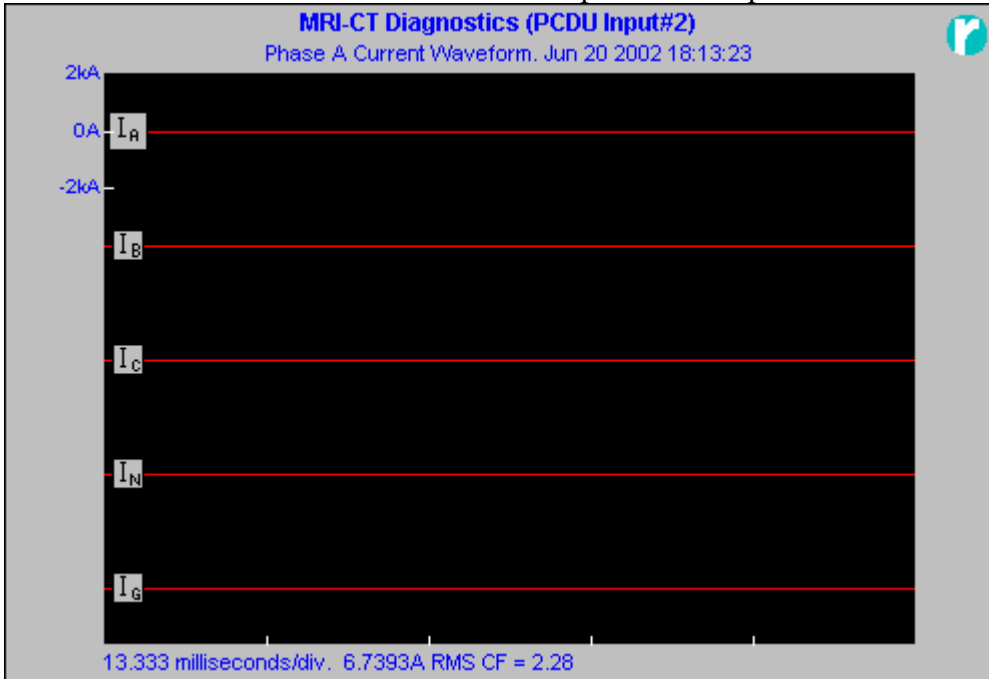
Current Imbalance:

Excessive Current Imbalance also indicates a poor distribution of loads. Although there may be no corresponding voltage imbalance, excessive current imbalance may result in tripped circuit breakers or transformer overheating.

The Voltage waveforms for PowerLines Sample:PCDU Input#2 are shown below:

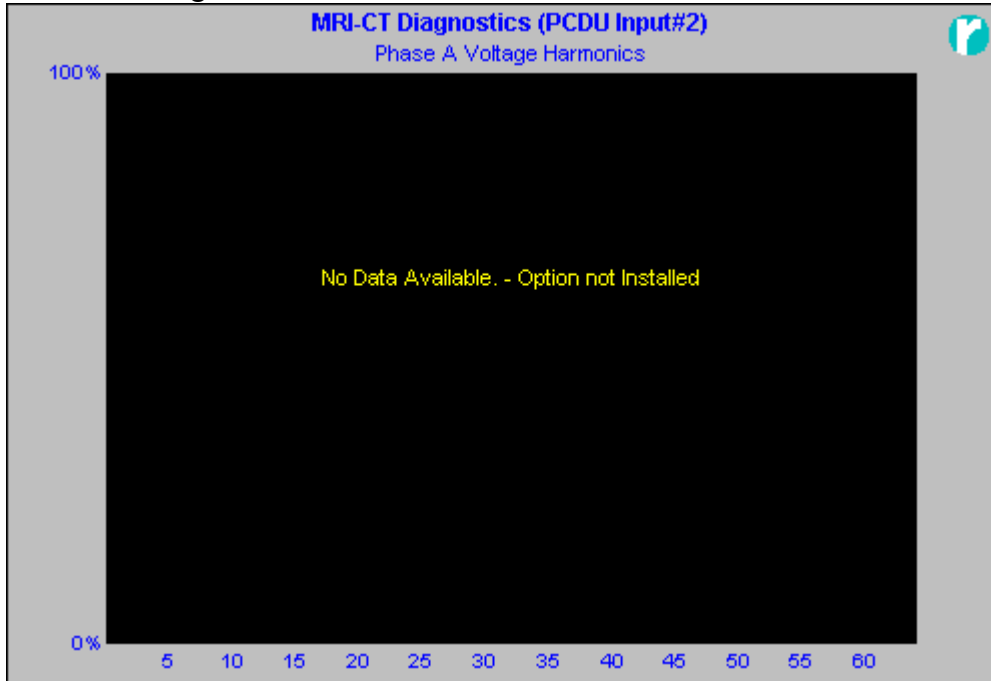


The Current waveforms for PowerLines Sample:PCDU Input#2 are shown below:

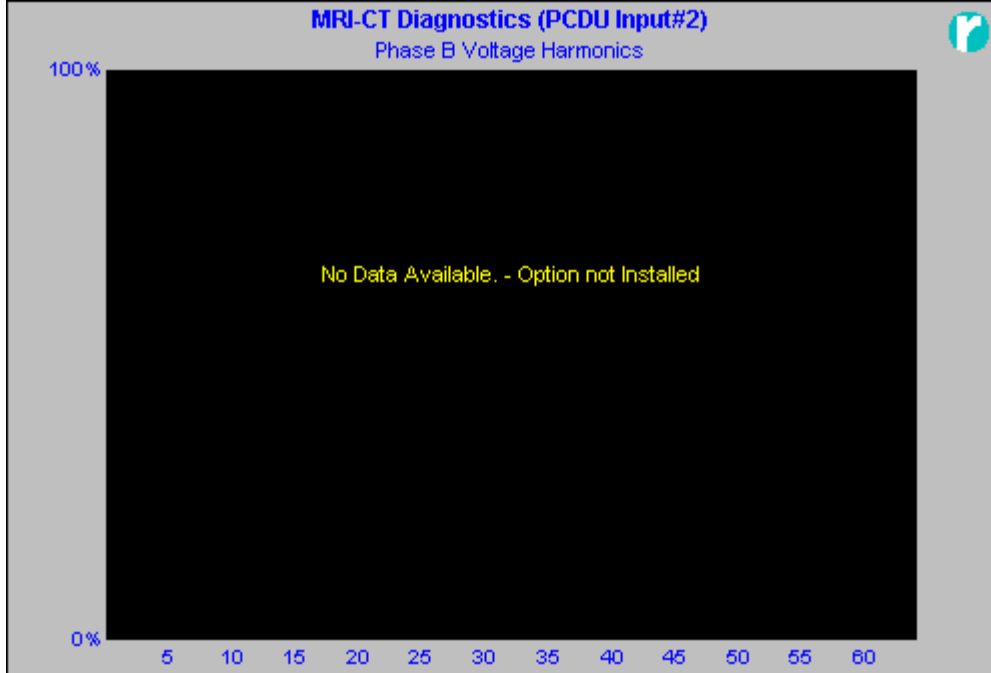


Voltage harmonics for PowerLines Sample:PCDU Input#2.

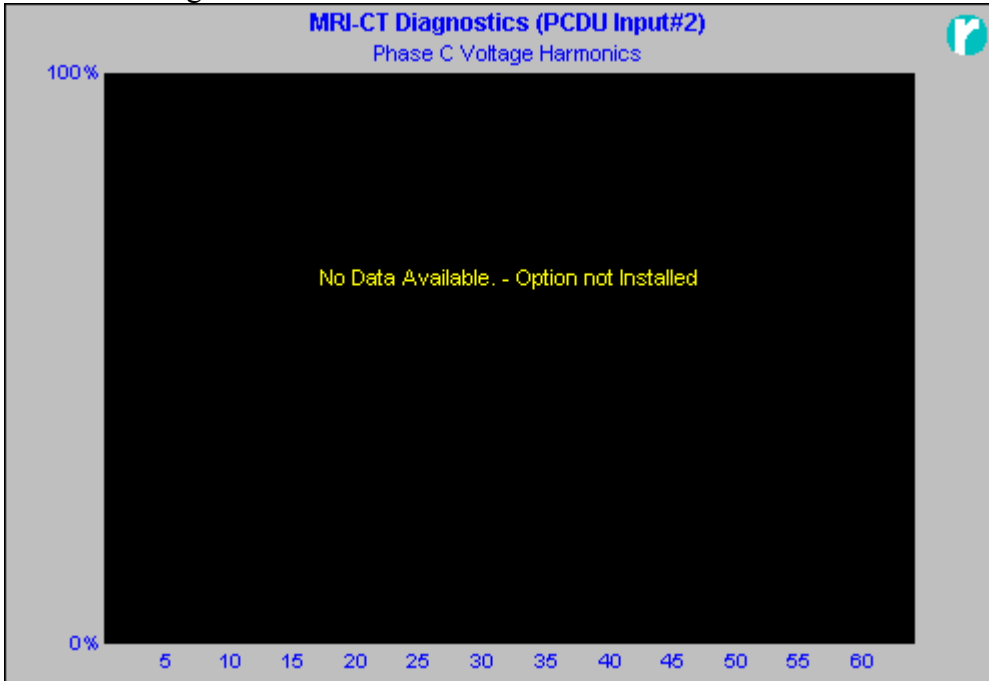
Phase A Voltage Harmonics.



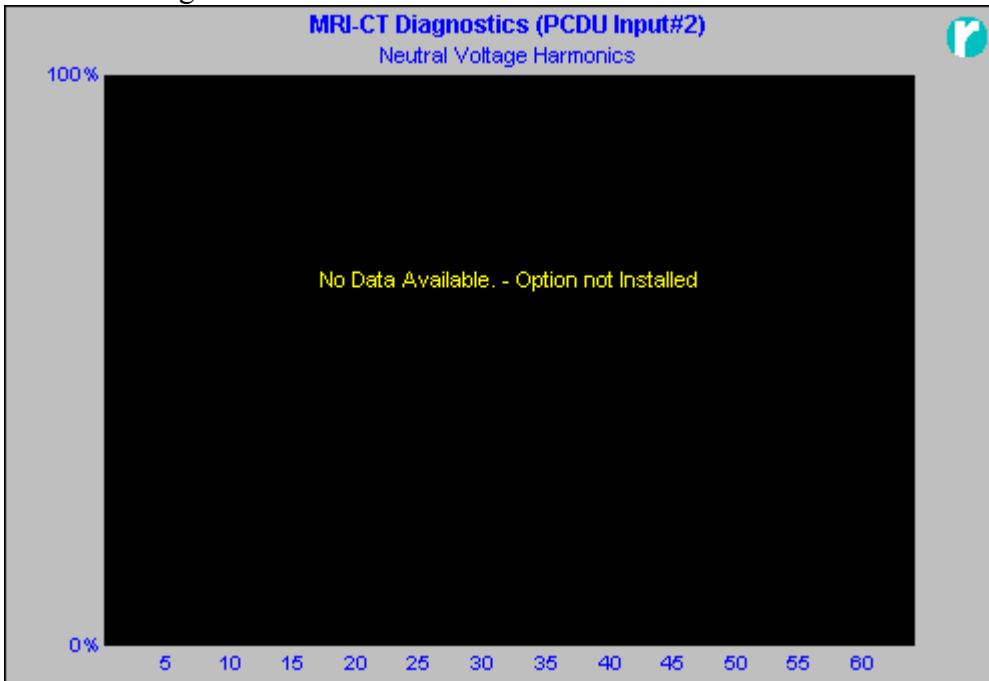
Phase B Voltage Harmonics.



Phase C Voltage Harmonics.

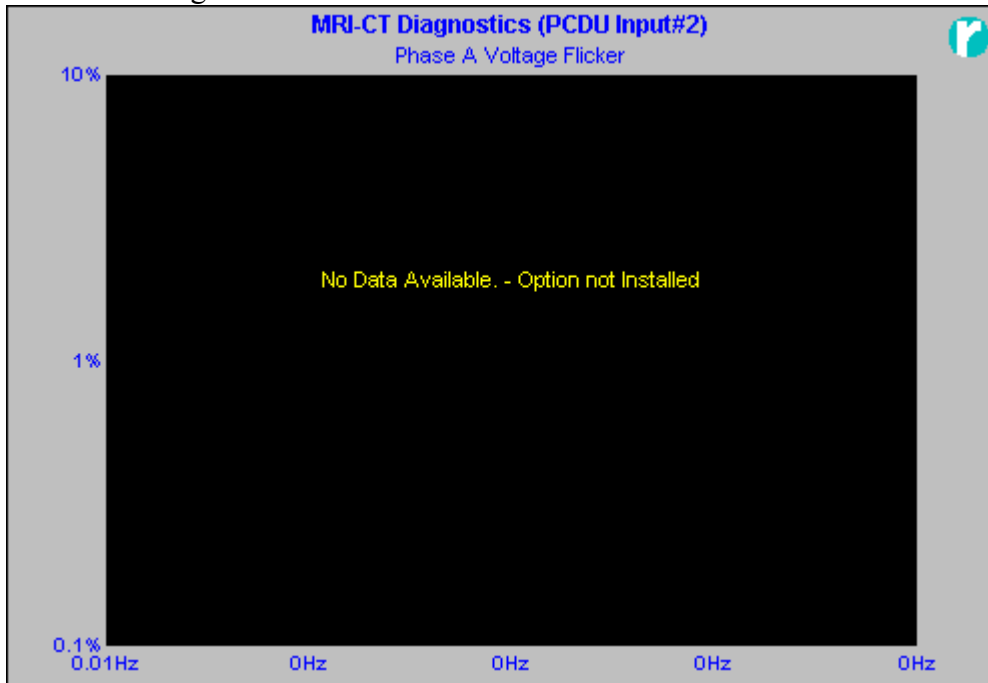


Neutral Voltage Harmonics.

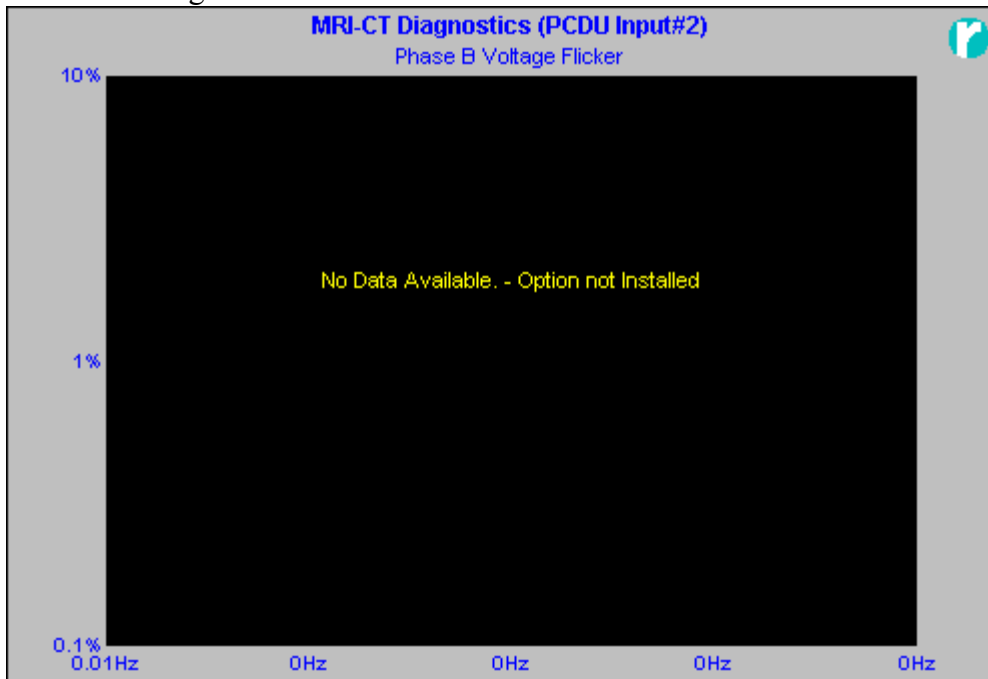


Voltage Flicker for PowerLines Sample:PCDU Input#2.

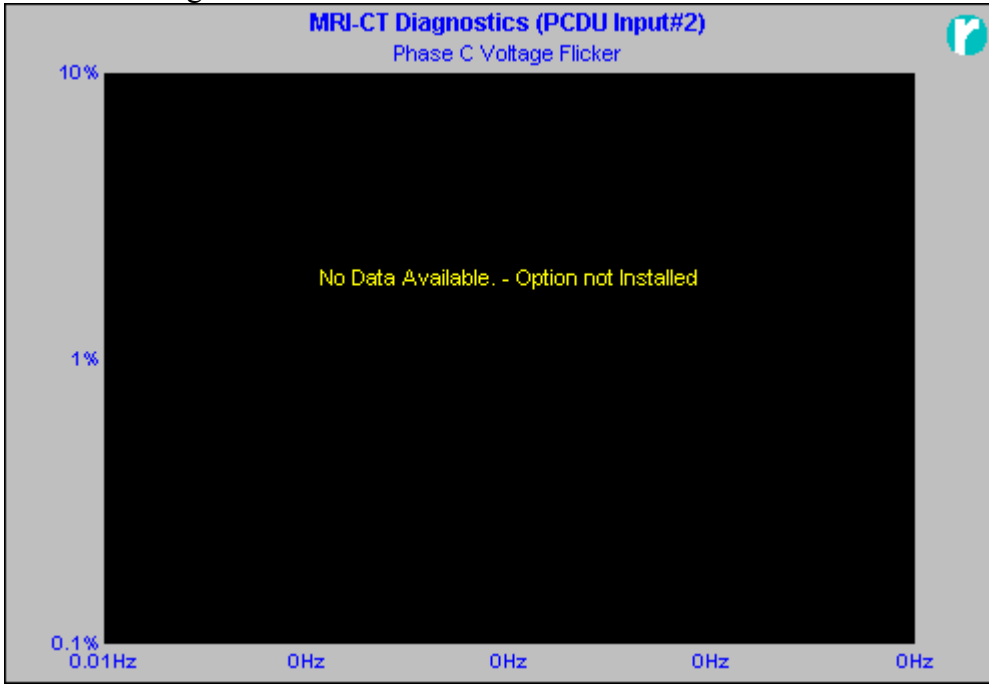
Phase A Voltage Flicker.



Phase B Voltage Flicker.

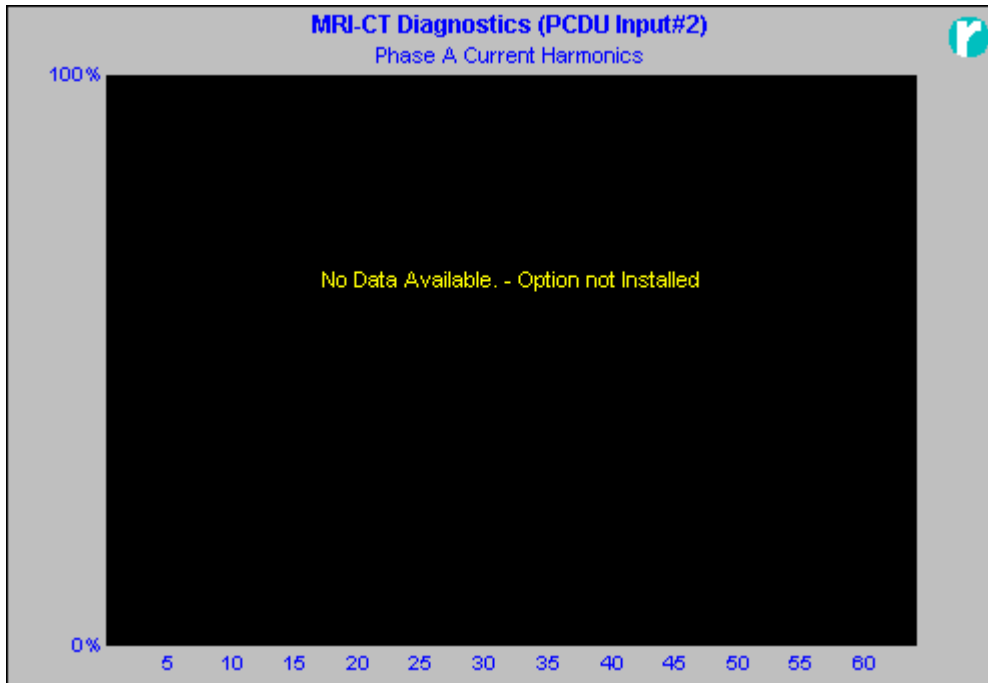


Phase C Voltage Flicker.

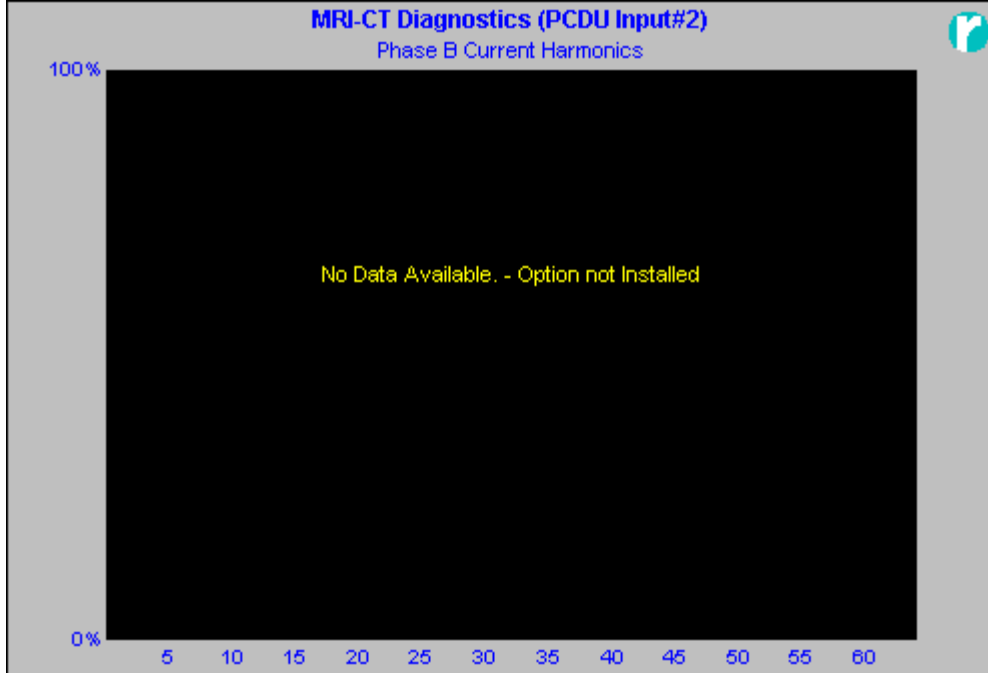


Current harmonics for PowerLines Sample:PCDU Input#2.

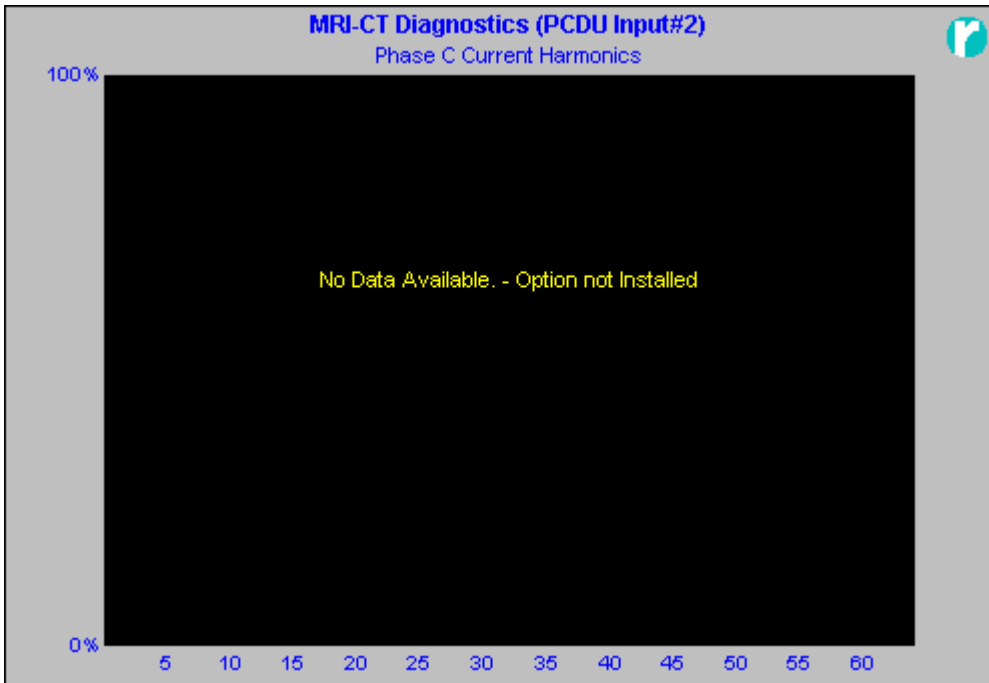
Phase A Current Harmonics.



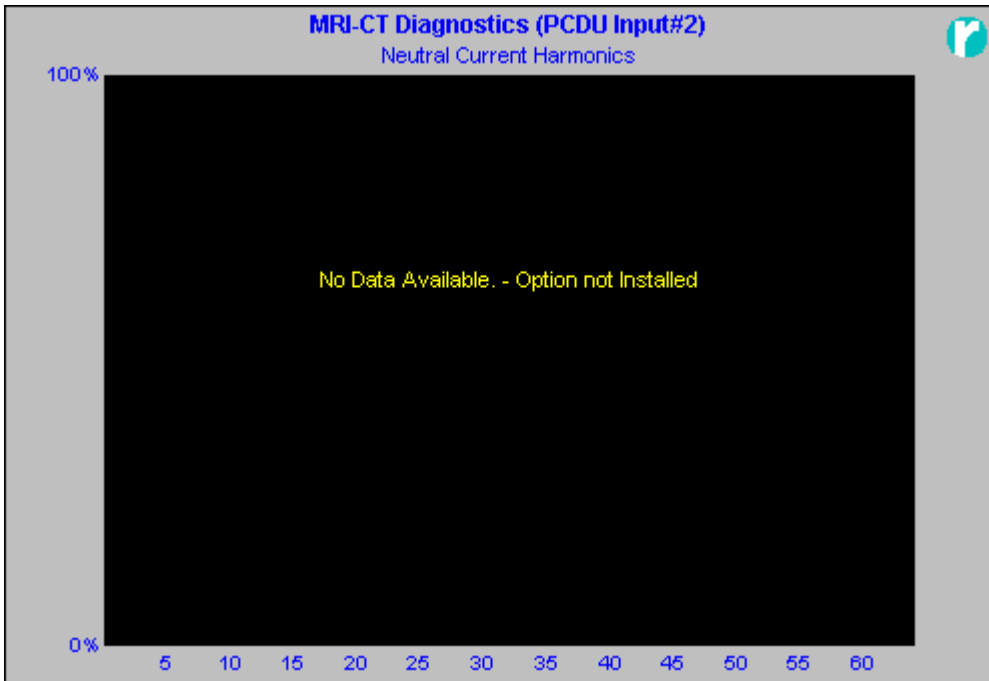
Phase B Current Harmonics.



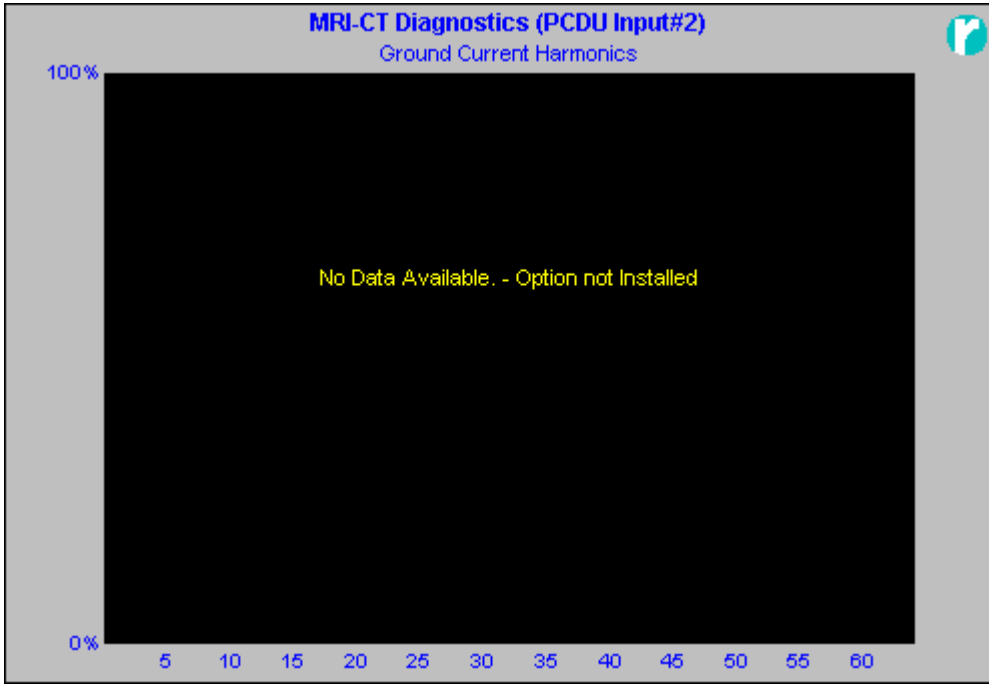
Phase C Current Harmonics



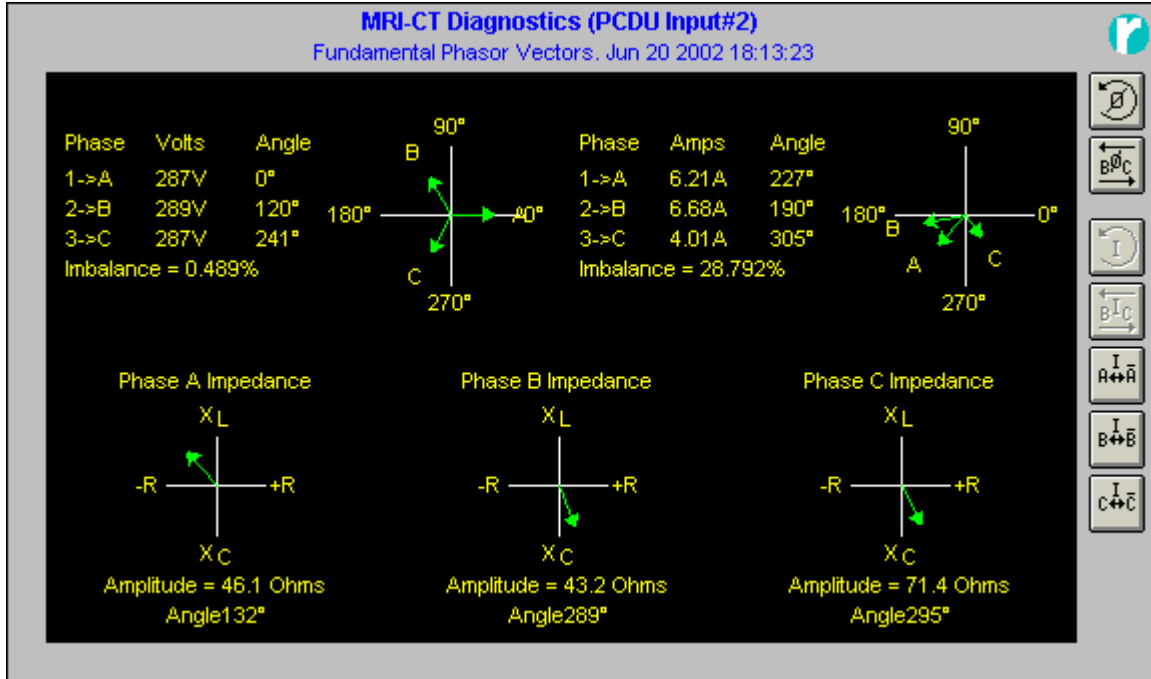
Neutral Current Harmonics.



Ground Current Harmonics



The Voltage, Current and Impedance Phasors for PowerLines Sample:PCDU Input#2 are shown below:



Voltage Events

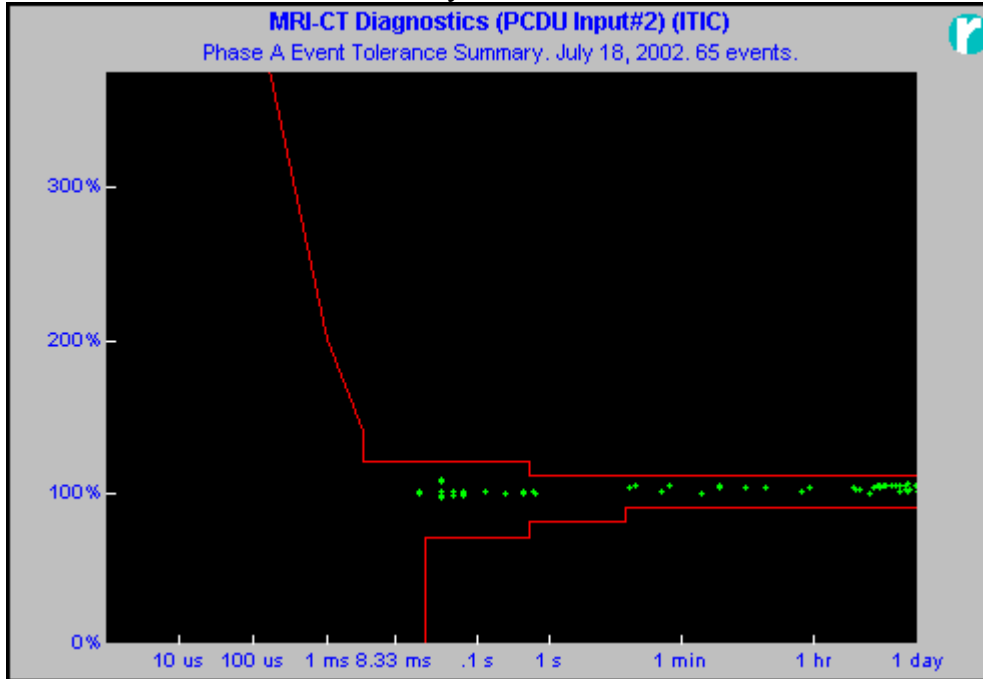
The following summarizes the results of the Power Quality monitoring survey from 06/20/02 18:13:18 through 07/18/02 18:13:18. It is intended to present an overview of the power quality at PowerLines Sample:PCDU Input#2. The table below is a listing of the most significant events.

Event Description	No.	Amp.	Duration	Date and Time
Phase A Largest RMS. Event	900	293.7V	19.056 hr	Jul 12 2002 02:53:18
Phase A Largest Waveshape Event	610	299.4V	33.333 ms	Jun 30 2002 10:44:05
Phase A Longest Waveshape Event	240	275.1V	616.667 ms	Jun 25 2002 16:16:46
Phase A Largest Impulse Event	N/A			
Phase A Longest Impulse Event	N/A			
Phase B Largest RMS. Event	761	291.8V	11.072 hr	Jul 18 2002 07:09:04
Phase B Largest Waveshape Event	641	285.1V	16.667 ms	Jul 13 2002 01:28:23
Phase B Longest Waveshape Event	181	279.5V	616.667 ms	Jun 25 2002 16:18:36
Phase B Largest Impulse Event	N/A			
Phase B Longest Impulse Event	N/A			
Phase C Largest RMS. Event	262	289.8V	1.623 day	Jun 26 2002 07:09:16
Phase C Largest Waveshape Event	512	299.4V	16.667 ms	Jun 30 2002 10:44:05
Phase C Longest Waveshape Event	882	277.7V	933.333 ms	Jul 12 2002 21:56:31
Phase C Largest Impulse Event	N/A			
Phase C Longest Impulse Event	N/A			
Neutral Largest RMS. Event	343	512.7mV	18.109 hr	Jun 30 2002 14:22:49
Neutral Largest Waveshape Event	493	2.905V	33.333 ms	Jul 04 2002 10:35:27
Neutral Longest Waveshape Event	73	988.8mV	33.333 ms	Jun 23 2002 14:38:30
Neutral Largest Impulse Event	N/A			
Neutral Longest Impulse Event	N/A			

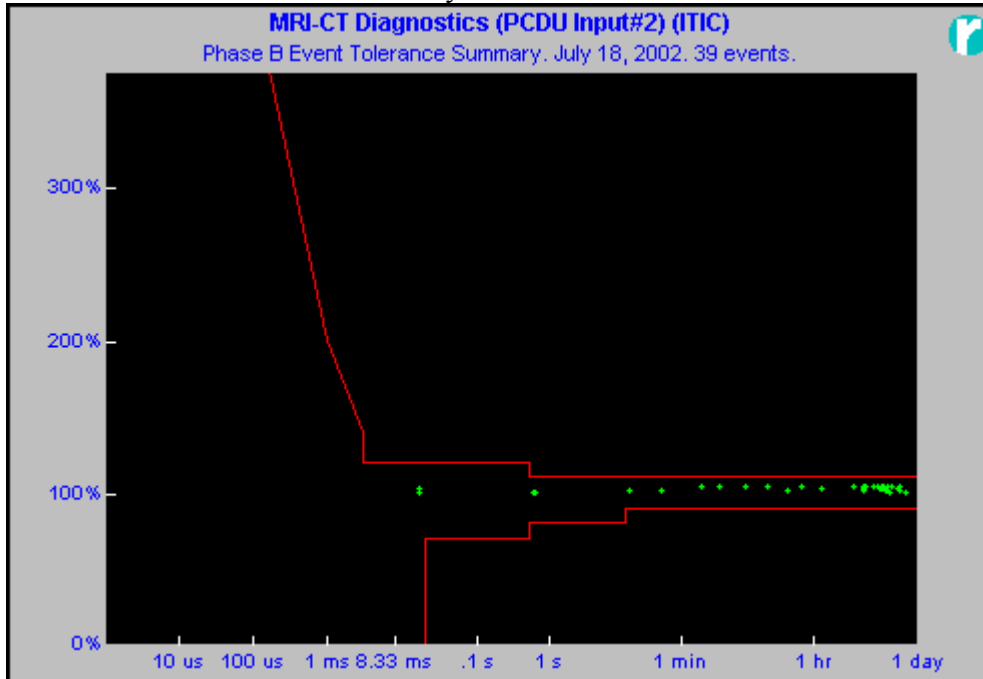
Power Tolerance Envelope:

The power quality parameters are summarized in the Power Tolerance Envelope shown below. Each dot on these graphs represents an event. The area outside of these lines depict events which are often associated with equipment malfunction..

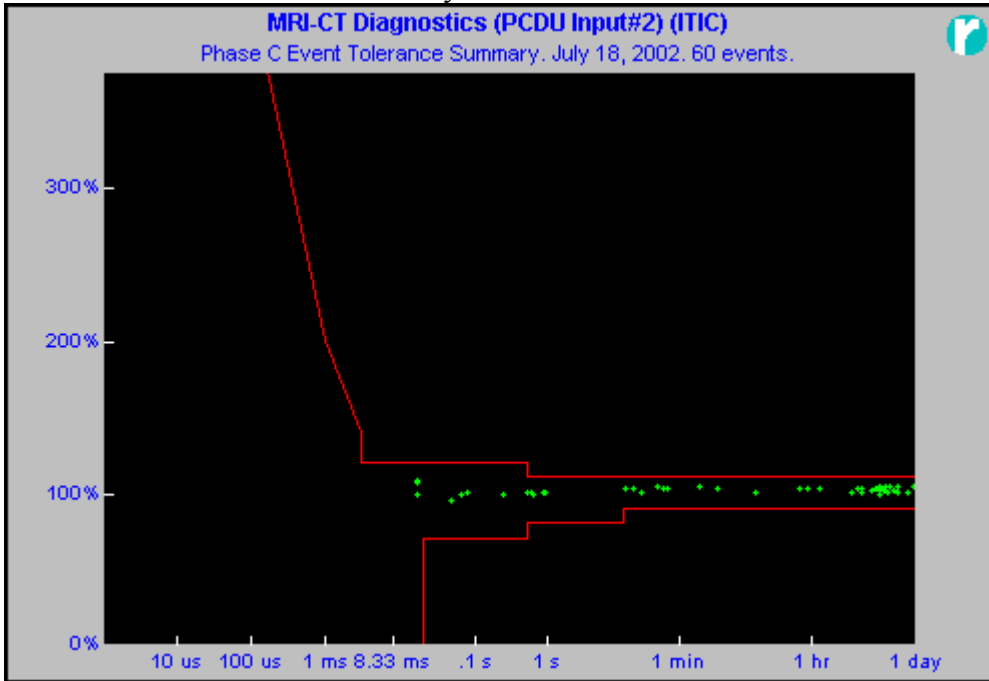
Phase A Event Tolerance Summary.



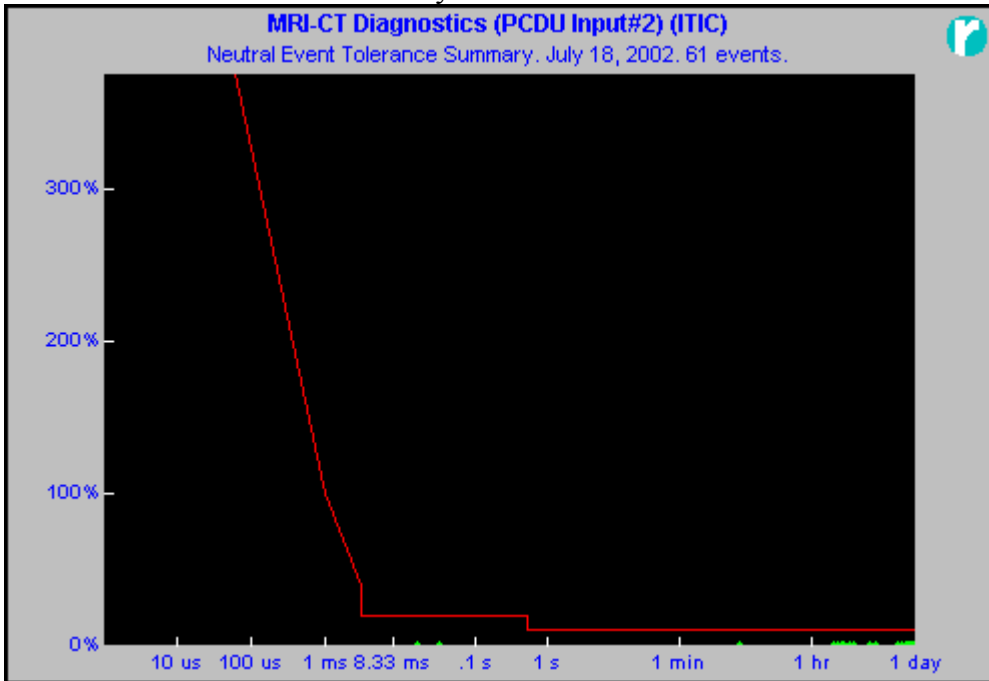
Phase B Event Tolerance Summary.



Phase C Event Tolerance Summary.



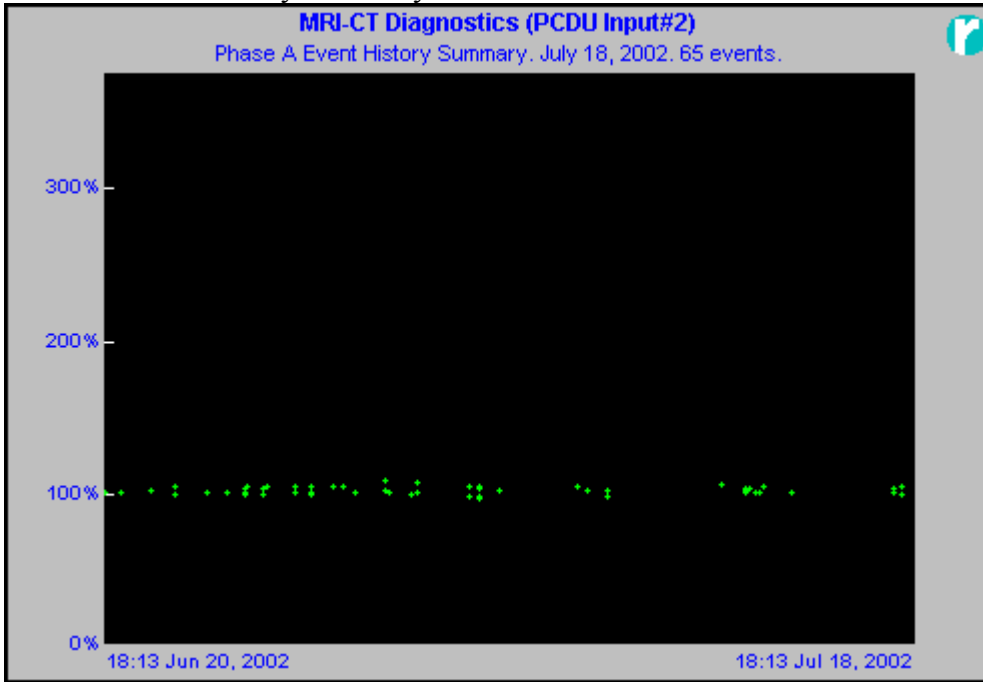
Neutral Event Tolerance Summary.



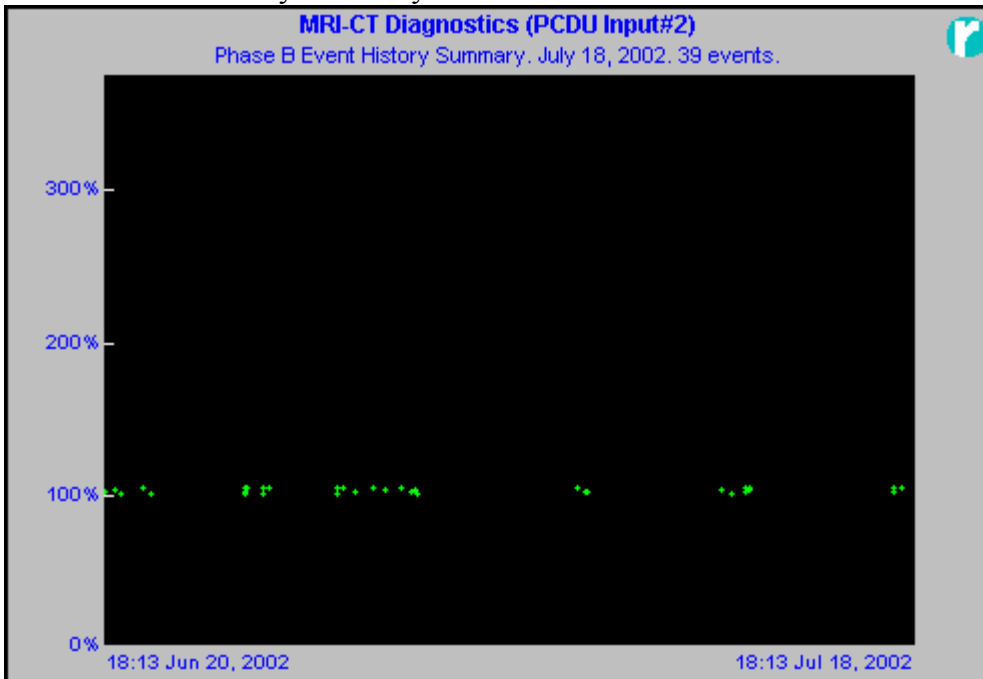
Event History Graphs:

A summary of events that occurred during the monitoring interval is shown in the event history graphs below. These events are graphed by amplitude versus time of occurrence.

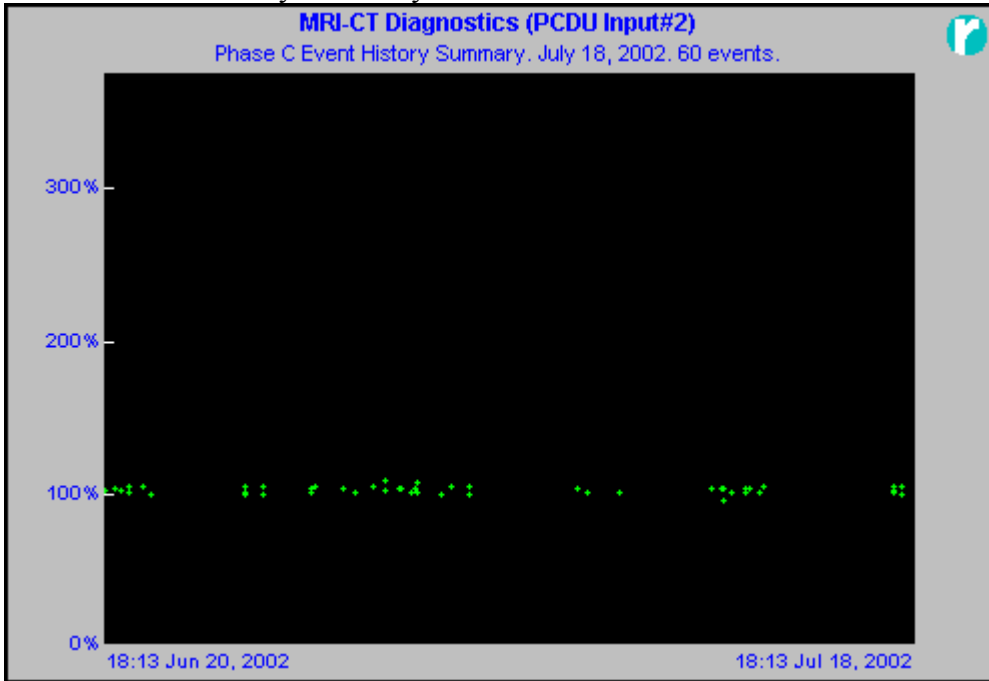
Phase A Event History Summary.



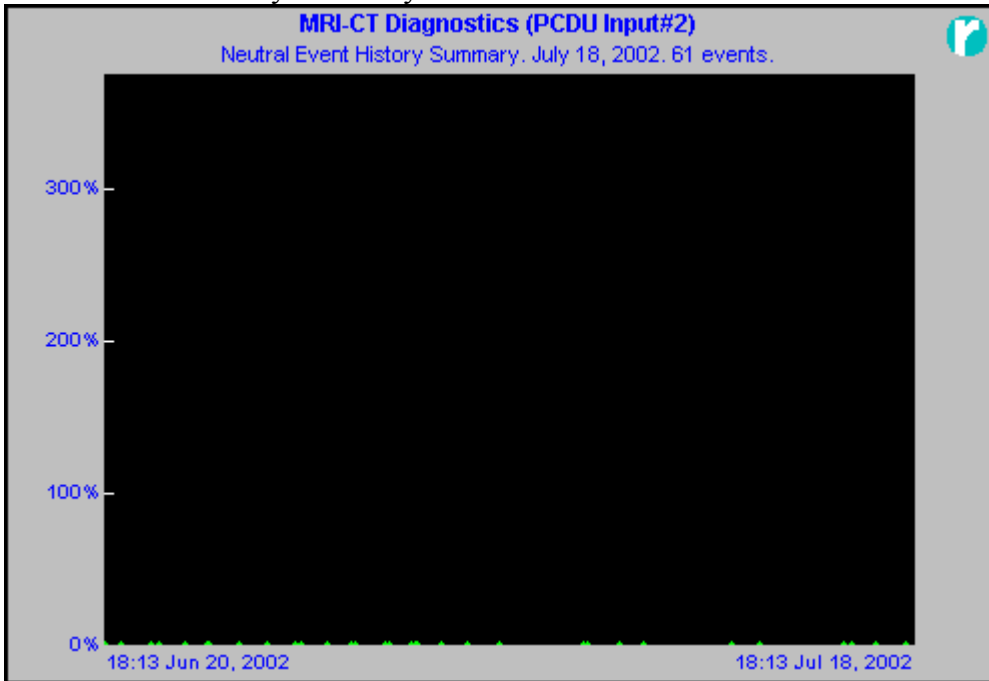
Phase B Event History Summary.



Phase C Event History Summary.



Neutral Event History Summary.



Event Domain Analyzer

This section contains the Event Tolerance Summaries, the Event Characterization, and the Solutions Table.

Event Tolerance Summaries:

The tables below show the Event Tolerance Summary, listing the events in the categories of Type I (Impulses), Type II (Waveshape Events), and Type III (RMS Events), for each phase. An asterisk by the event number indicates a Fault.

Phase A Event Tolerance Summary.

MRI-CT Diagnostics (PCDU Input#2) (ITIC)			
Phase A Event Tolerance Summary. July 18, 2002. 65 events.			
	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	22	34
Total Faults	0	0	0
	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	240	275.1V	616.667 ms
Largest Type II Event	610	299.4V	33.333 ms
Longest Type III Event	340	290.0V	23.214 hr
Largest Type III Event	900	293.7V	19.056 hr

Phase B Event Tolerance Summary.

MRI-CT Diagnostics (PCDU Input#2) (ITIC)			
Phase B Event Tolerance Summary. July 18, 2002. 39 events.			
	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	5	29
Total Faults	0	0	0
	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	181	279.5V	616.667 ms
Largest Type II Event	641	285.1V	16.667 ms
Longest Type III Event	41	281.0V	17.699 hr
Largest Type III Event	761	291.8V	11.072 hr

Phase C Event Tolerance Summary.

MRI-CT Diagnostics (PCDU Input#2) (ITIC)			
Phase C Event Tolerance Summary. July 18, 2002. 60 events.			
	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	16	37
Total Faults	0	0	0
	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	882	277.7V	933.333 ms
Largest Type II Event	512	299.4V	16.667 ms
Longest Type III Event	442	288.8V	23.747 hr
Largest Type III Event	662	289.6V	14.748 hr

Neutral Event Tolerance Summary.

MRI-CT Diagnostics (PCDU Input#2) (ITIC)			
Neutral Event Tolerance Summary. July 18, 2002. 61 events.			
	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	28	24
Total Faults	0	0	0
	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	73	988.8mV	33.333 ms
Largest Type II Event	493	2.905V	33.333 ms
Longest Type III Event	163	85.45mV	23.492 hr
Largest Type III Event	343	512.7mV	18.109 hr

Event Characterization:

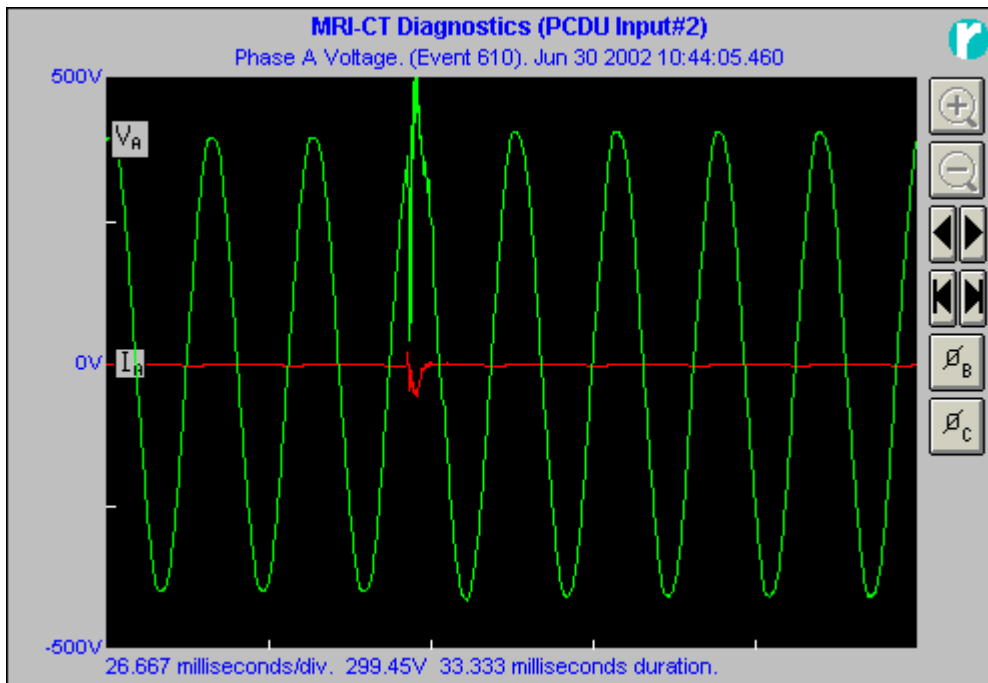
If Impulses, Waveshape Events, and/or RMS Events were chosen to be in this report, they are shown in this section. They are summarized over all of the phases together. The largest of the events in each category are also shown.

Impulses:

Impulses are shown on the left side of the Power Tolerance Envelope. They are relatively high frequency voltage excursions of short duration. When of significant magnitude and duration, these disturbances can cause malfunction of sensitive electronic equipment and damage both components and insulation. **No impulses occurred during the monitoring period.**

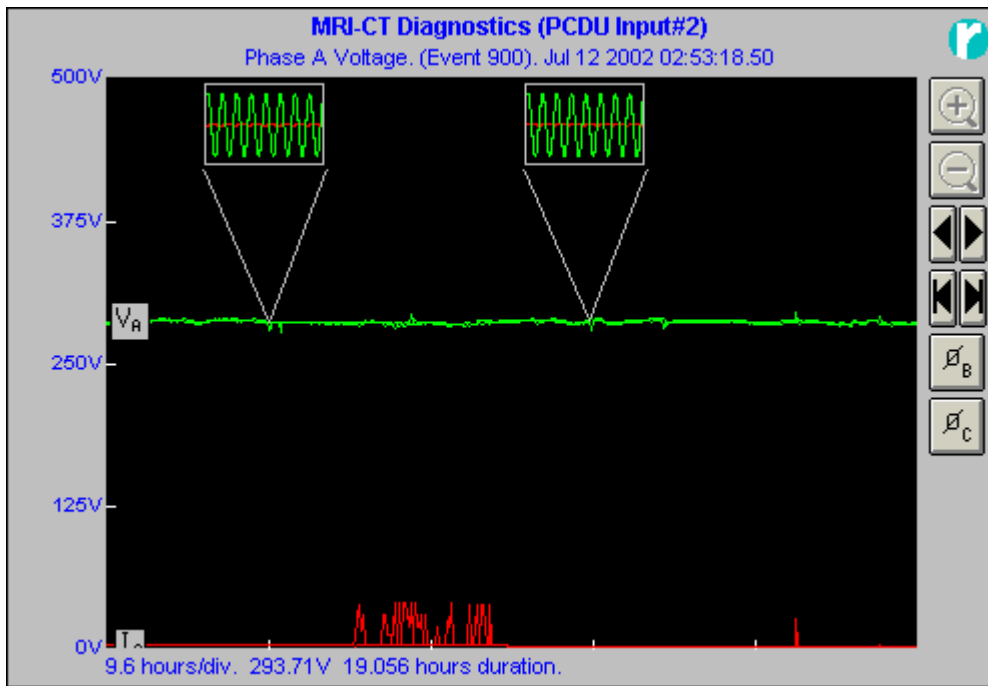
Waveshape Faults:

Waveshape faults are longer in duration than impulses and are shown in the middle of the Power Tolerance Envelope. They are often sub-cycle distortions of the AC sinusoid. However these distortions can last for a fraction of the single cycle period or they can continue for hundreds of milliseconds, hours or even days. All equipment which is not supplied by an Uninterruptible Power Supply, or whose power supply doesn't inherently have sufficient "ride through" to withstand the disturbance will be disrupted. Frequently these disturbances are associated with impulses. **43 Waveshape faults occurred during the monitoring period.** Event 610, a typical Waveshape fault is shown below.



Voltage Surges and Sags:

The utility strives to keep RMS. levels within a +5%, -10% range of the nominal voltage. Surges are those RMS. levels which go above the +5% range. Sags are those RMS. levels which go below the -10% range. The duration is generally from a few cycles to a few seconds. 121 RMS. events occurred during the monitoring period. Event 900, a typical RMS. event is shown below.



Solutions Table:

The following table provides a general overview of the types of mitigation devices available for specific power quality phenomena. Often times the need for choosing the right mitigation device depends upon existing system parameters. This information in correlation with monitoring data allows for the implementation of the most economical and feasible electrical solutions.

Disturbance Type	P1159 Category	Specific Phenomena	Solution
Type I – Transients	Impulsive	Lightning, Electrostatic Discharge	Filters Isolation Transformers
	Oscillatory	Line/Load switching, power electronic device operation	Low-impedance Power Conditioners (LIPCs) On-Line UPS
		Capacitor switching	Surge Protective Devices (SPDs)
		Ferroresonance Transformer energization	Line Reactor Constant Voltage Transformers (high frequency)
Type II – (0.5 cycles to 2 s)	Instantaneous and Momentary Short Duration Variations	System faults	Constant Voltage Transformers Energy Storage Technologies Magnetic Synthesizers Motor Generator Standby Power Supply Static Transfer Switch Static Voltage Regulator UPS System
Type III – (> 2 s)	Temporary Short Duration Variations (3s to 1 min)	System Protection, Maintenance	Energy Storage Technologies Motor Generator UPS System
	Sustained Interruption Undervoltage Overvoltage	Motor Starting, Load Variations, Load Dropping	Backup Generator Constant Voltage Transformers Energy Storage Technologies Voltage Regulators

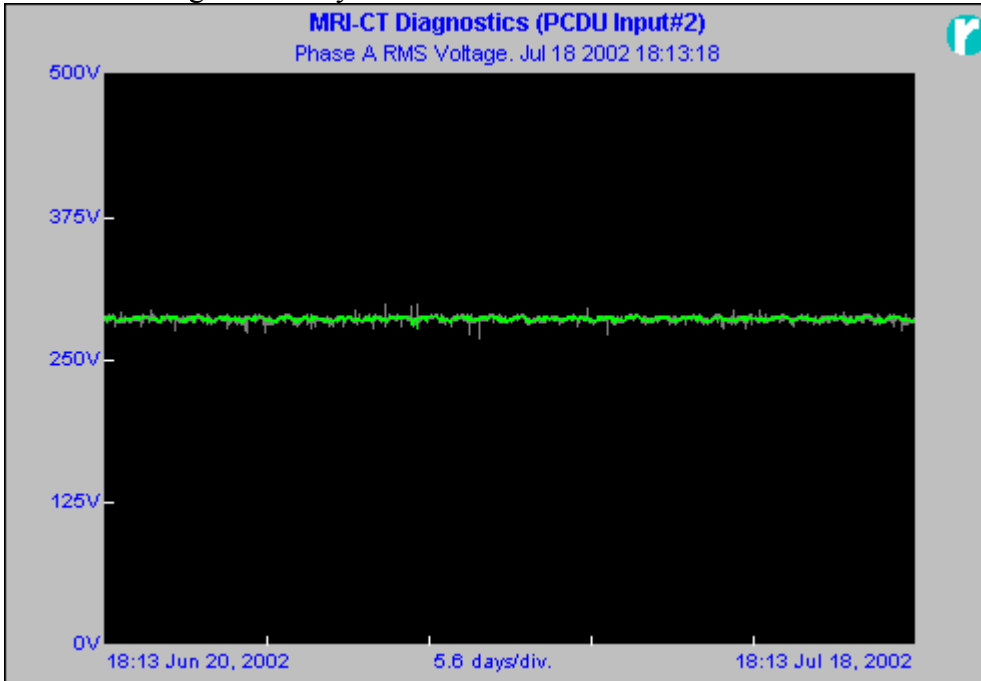
Voltage, Current and Frequency Summaries

Voltage, Current and Frequency measurements for PowerLines Sample:PCDU Input#2
from 06/20/02 18:13:18 through 07/18/02 18:13:18.

RMS. Voltages	Value	Date and Time
Phase A minimum	268.4V	Jul 03 2002 17:28:18
Phase A average	286.5V	
Phase A maximum	299.4V	Jun 30 2002 10:43:18
Phase B minimum	276.2V	Jun 26 2002 06:58:18
Phase B average	288.0V	
Phase B maximum	297.3V	Jul 01 2002 08:28:18
Phase C minimum	263.6V	Jul 12 2002 03:28:18
Phase C average	285.9V	
Phase C maximum	299.4V	Jun 30 2002 10:43:18
Neutral minimum	73.24mV	Jun 20 2002 18:13:18
Neutral average	144.3mV	
Neutral maximum	2.905V	Jul 04 2002 10:28:18
RMS. Currents	Value	Date and Time
Phase A minimum	4.211A	Jun 20 2002 18:43:18
Phase A average	5.426A	
Phase A maximum	80.02A	Jul 12 2002 10:13:18
Phase B minimum	4.577A	Jun 21 2002 06:58:18
Phase B average	6.279A	
Phase B maximum	84.78A	Jul 03 2002 10:28:18
Phase C minimum	4.944A	Jul 03 2002 07:28:18
Phase C average	6.816A	
Phase C maximum	78.74A	Jul 08 2002 14:28:18
Neutral minimum	17.39mA	Jun 21 2002 03:43:18
Neutral average	21.89mA	
Neutral maximum	26.55mA	Jul 15 2002 13:13:18
Ground minimum	2.014A	Jun 20 2002 18:13:18
Ground average	2.731A	
Ground maximum	3.296A	Jun 20 2002 22:13:18
Frequency	Value	Date and Time
Phase A minimum	59.92Hz	Jul 13 2002 01:13:18
Phase A average	59.99Hz	
Phase A maximum	60.07Hz	Jul 05 2002 07:13:18
Phase B minimum	59.92Hz	Jul 13 2002 01:13:18
Phase B average	59.99Hz	
Phase B maximum	60.07Hz	Jul 05 2002 07:13:18
Phase C minimum	59.92Hz	Jul 13 2002 01:13:18
Phase C average	59.99Hz	
Phase C maximum	60.07Hz	Jul 05 2002 07:13:18

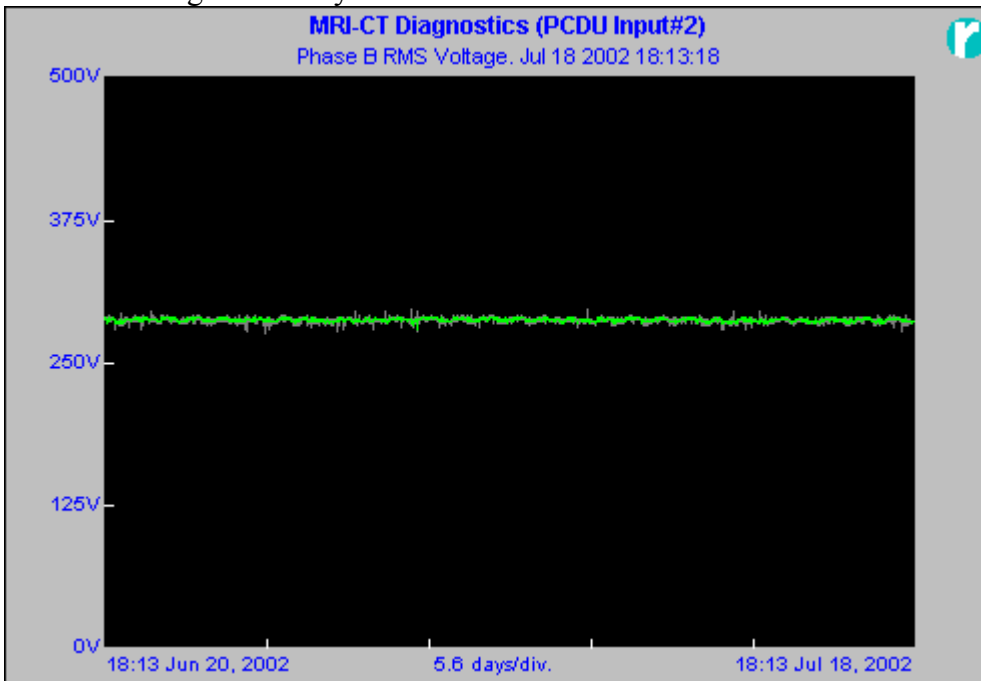
RMS. Voltage Summaries for PowerLines Sample:PCDU Input#2.

Phase A Voltage Summary.



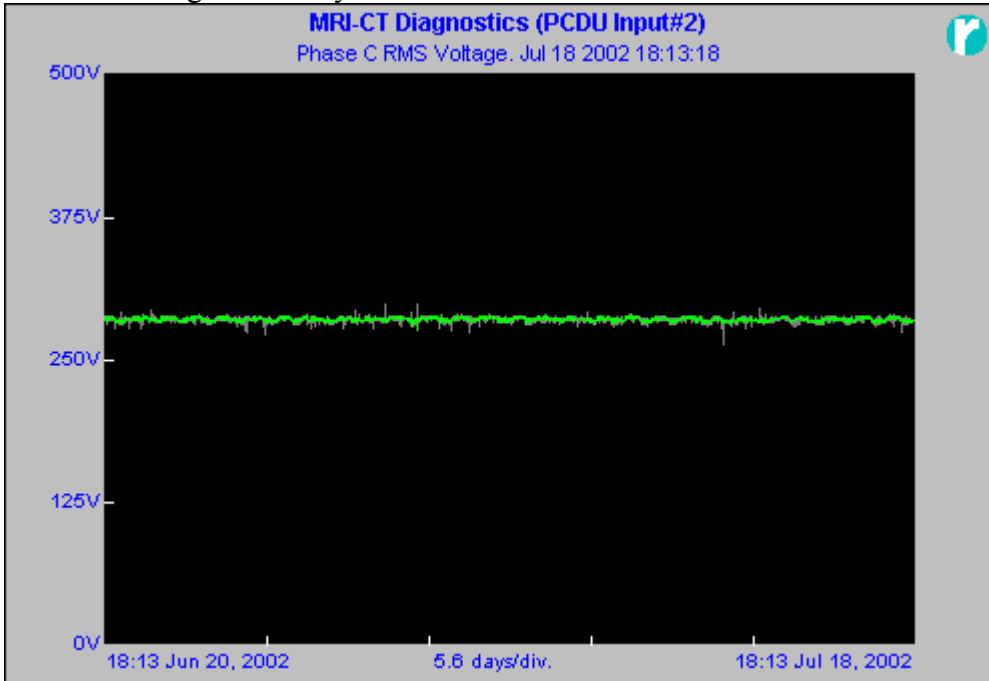
Min. 268.4V Jul 03 2002 17:28:18
Avg. **286.5V**
Max. 299.4V Jun 30 2002 10:43:18

Phase B Voltage Summary.



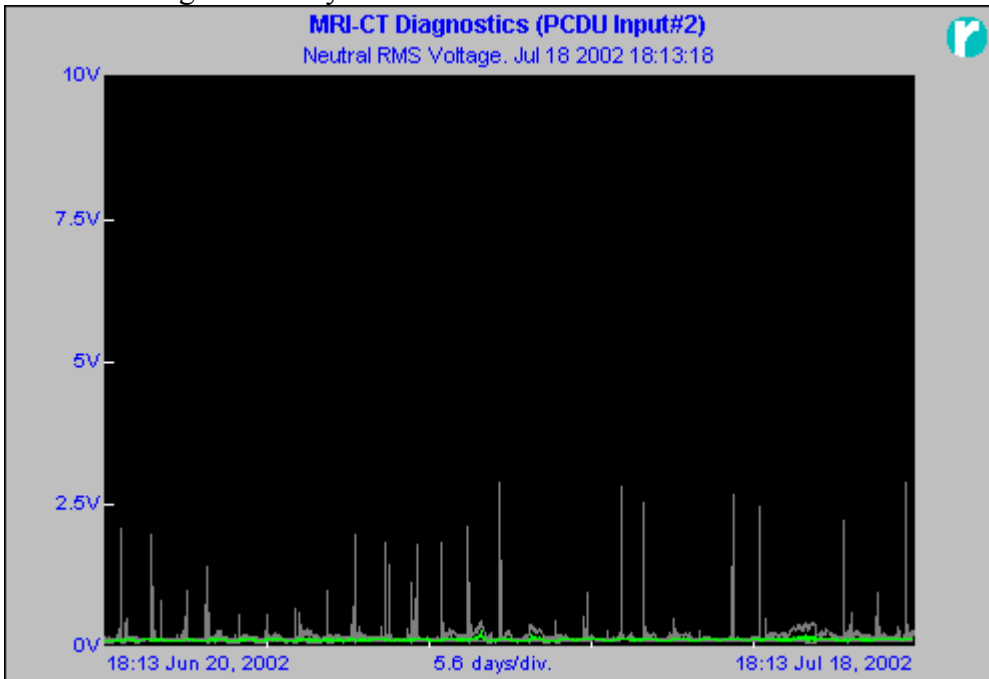
Min. 276.2V Jun 26 2002 06:58:18
Avg. **288.0V**
Max. 297.3V Jul 01 2002 08:28:18

Phase C Voltage Summary.



Min. 263.6V Jul 12 2002 03:28:18
Avg. **285.9V**
Max. 299.4V Jun 30 2002 10:43:18

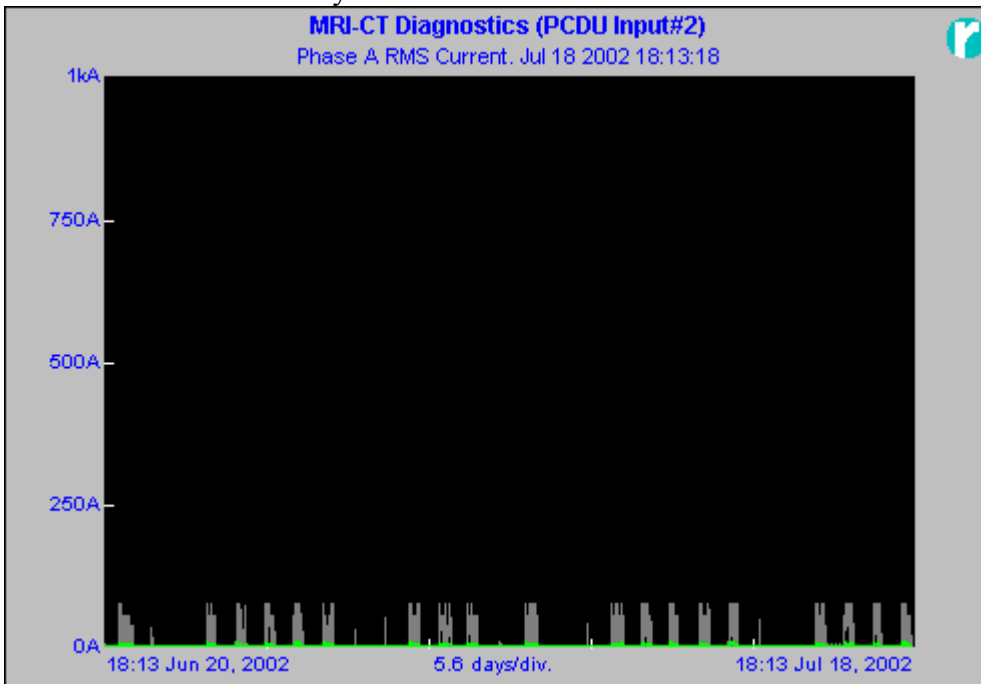
Neutral Voltage Summary.



Min. 73.24mV Jun 20 2002 18:13:18
Avg. **144.3mV**
Max. 2.905V Jul 04 2002 10:28:18

RMS. Current Summaries for PowerLines Sample:PCDU Input#2.

Phase A Current Summary.

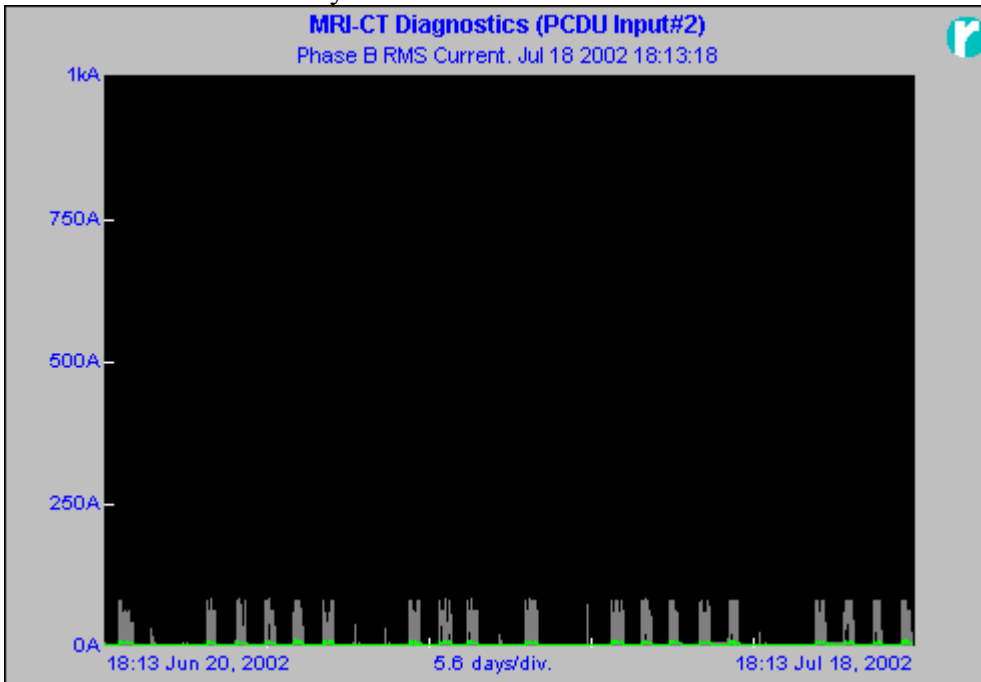


Min. 4.211A Jun 20 2002 18:43:18

Avg. 5.426A

Max. 80.02A Jul 12 2002 10:13:18

Phase B Current Summary.

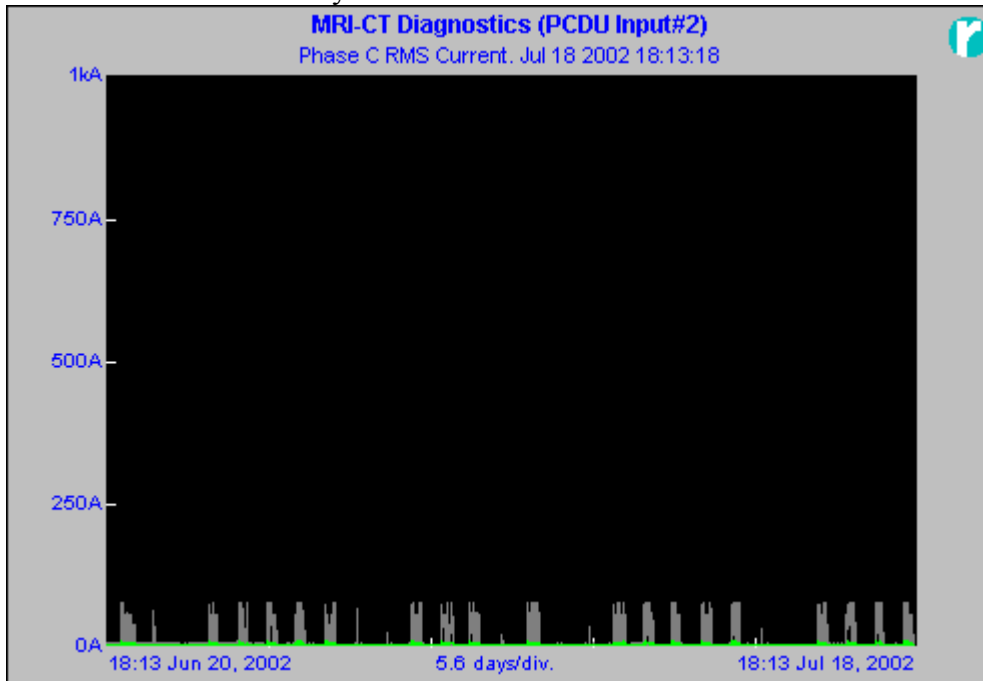


Min. 4.577A Jun 21 2002 06:58:18

Avg. 6.279A

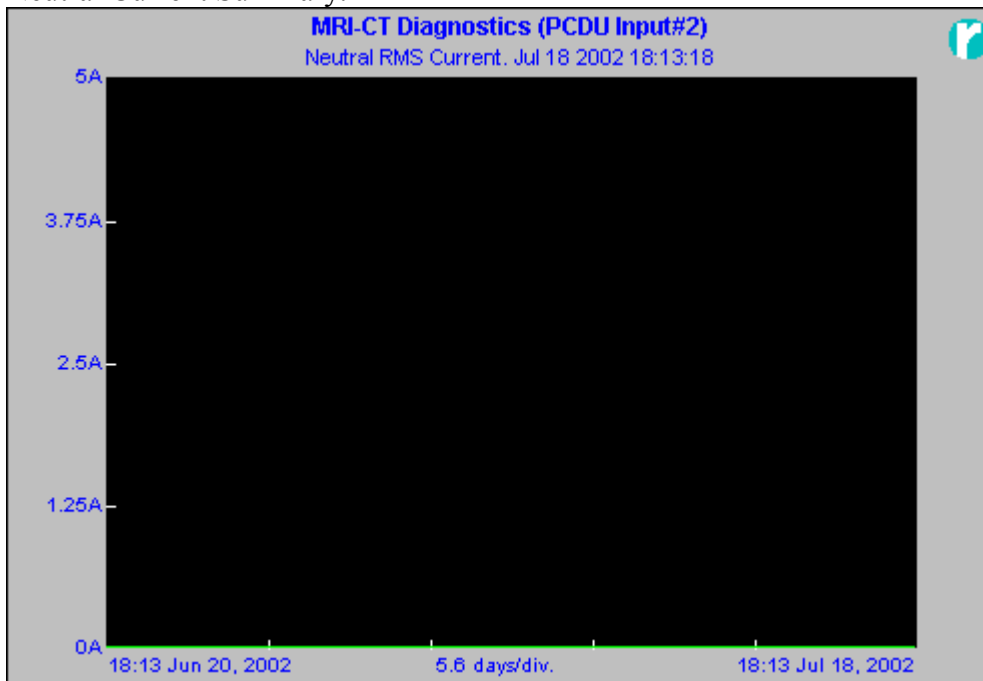
Max. 84.78A Jul 03 2002 10:28:18

Phase C Current Summary.



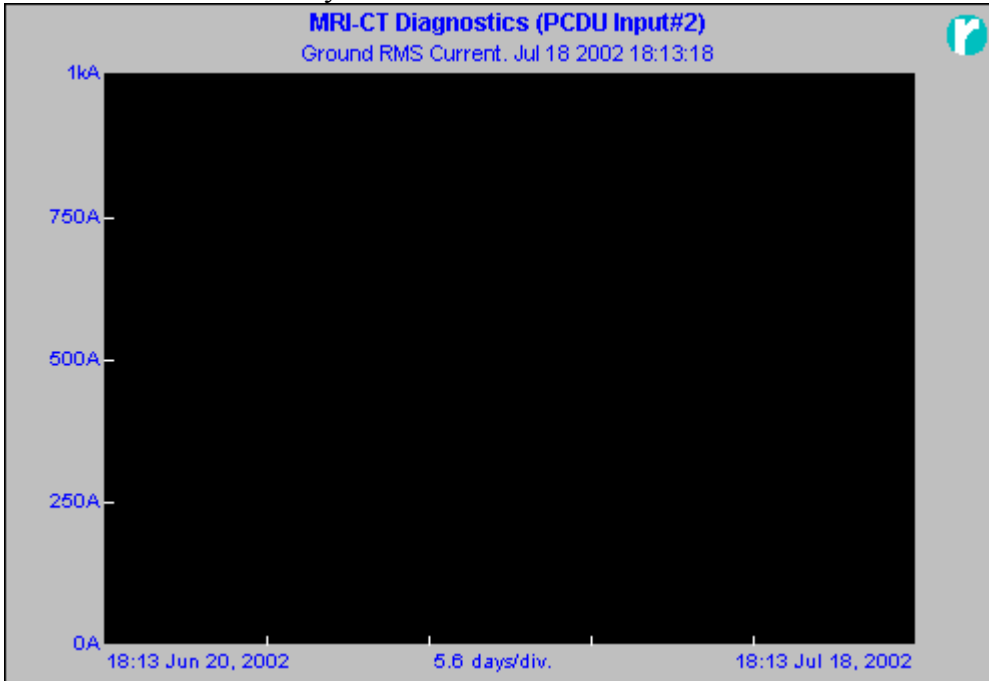
Min. 4.944A Jul 03 2002 07:28:18
Avg. **6.816A**
Max. 78.74A Jul 08 2002 14:28:18

Neutral Current Summary.



Min. 17.39mA Jun 21 2002 03:43:18
Avg. **21.89mA**
Max. 26.55mA Jul 15 2002 13:13:18

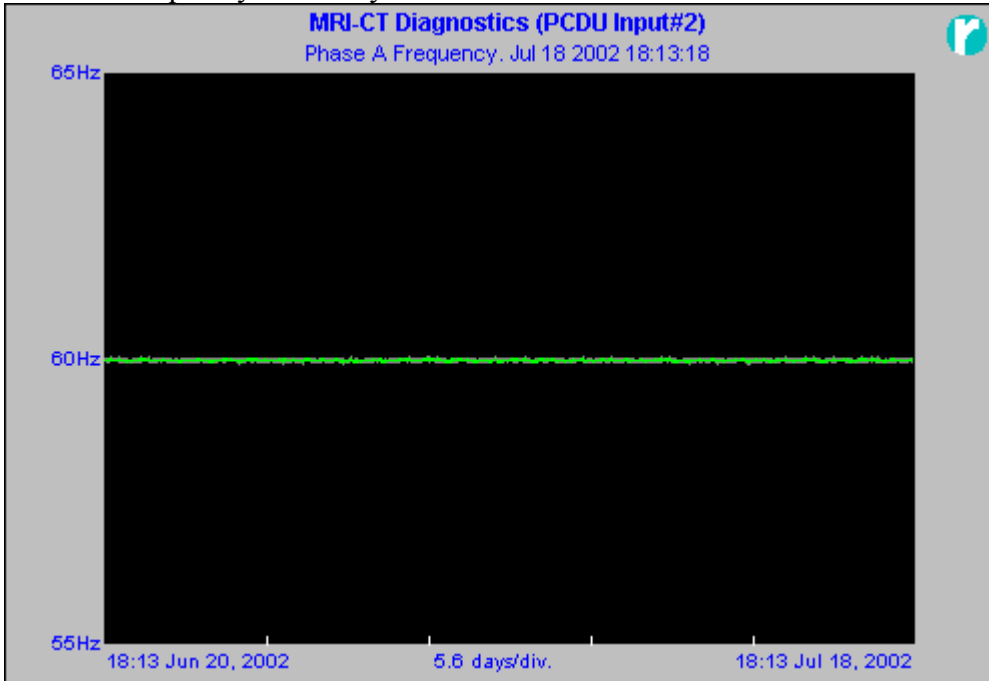
Ground Current Summary.



Min. 2.014A Jun 20 2002 18:13:18
Avg. **2.731A**
Max. 3.296A Jun 20 2002 22:13:18

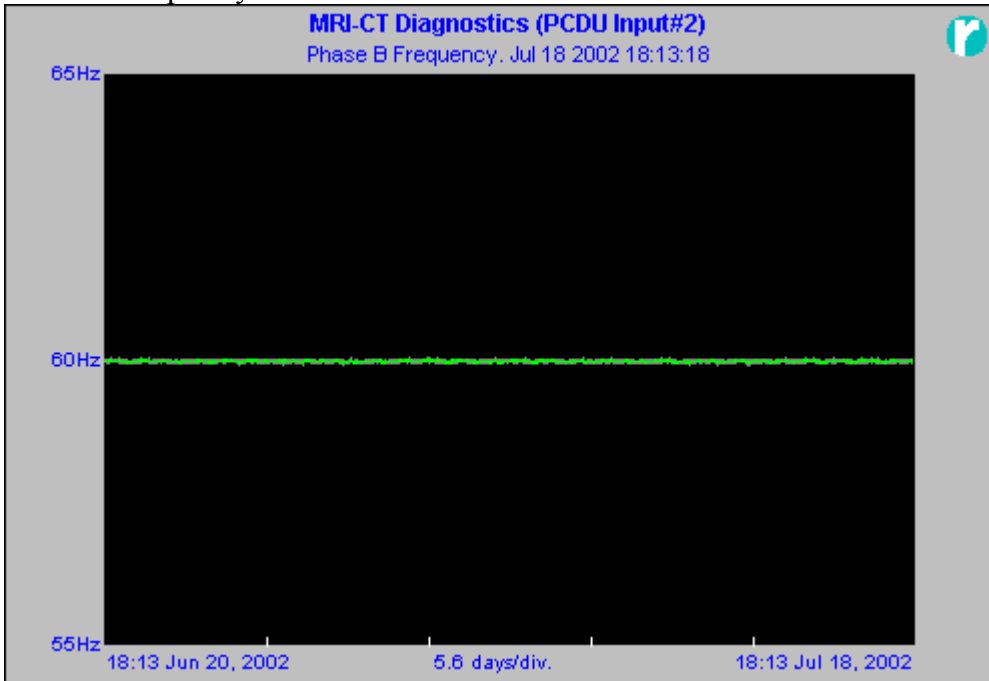
Frequency Summaries for PowerLines Sample:PCDU Input#2.

Phase A Frequency Summary.



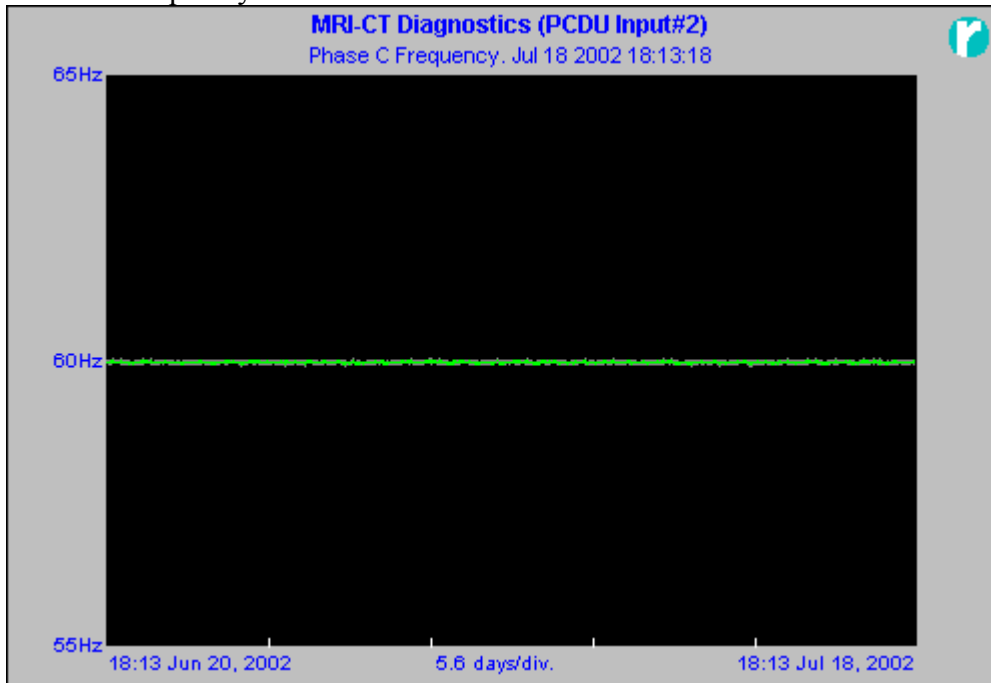
Min. 59.92Hz Jul 13 2002 01:13:18
Avg. **59.99Hz**
Max. 60.07Hz Jul 05 2002 07:13:18

Phase B Frequency.



Min. 59.92Hz Jul 13 2002 01:13:18
Avg. **59.99Hz**
Max. 60.07Hz Jul 05 2002 07:13:18

Phase C Frequency.



Min. 59.92Hz Jul 13 2002 01:13:18
Avg. **59.99Hz**
Max. 60.07Hz Jul 05 2002 07:13:18

Voltage and Current Distortion Summaries

Voltage and Current harmonic distortion measurements for PowerLines Sample:PCDU
Input#2 from 06/20/02 18:13:18 through 07/18/02 18:13:18.

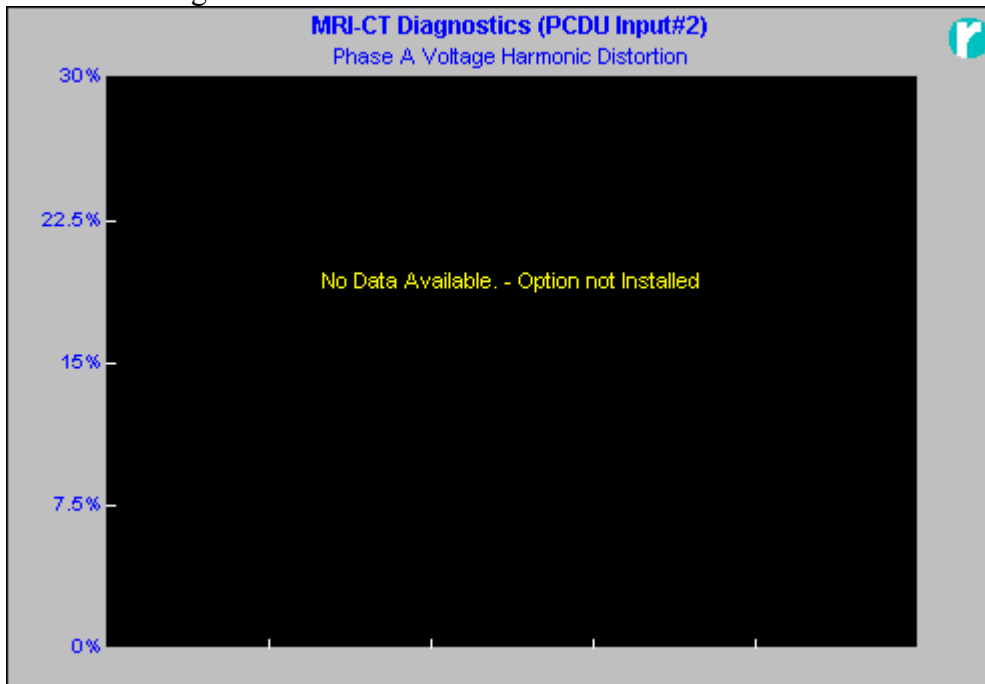
Voltage Distortion	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	

Current Distortion	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	

Voltage Flicker	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	

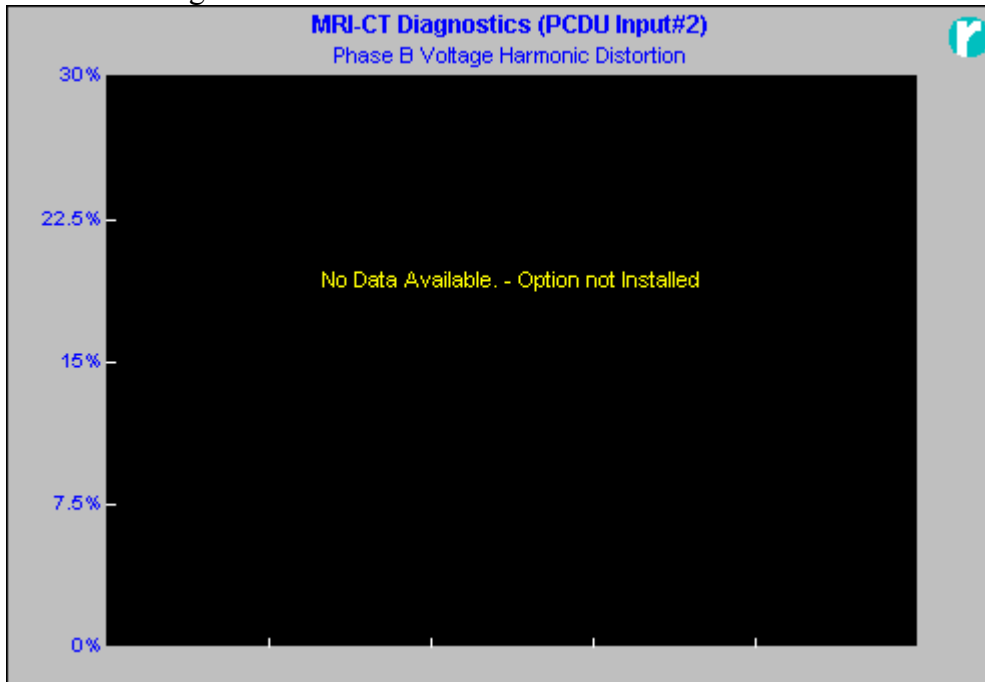
Voltage T.H.D. Summaries for PowerLines Sample:PCDU Input#2 .

Phase A Voltage Distortion.



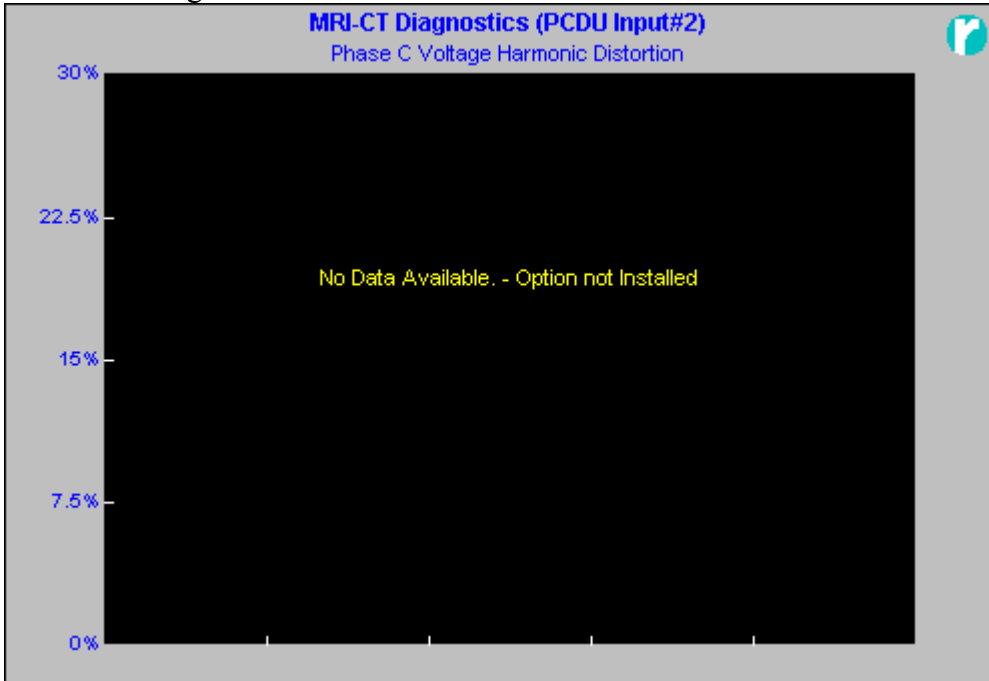
Min. N/A
Avg. N/A
Max. N/A

Phase B Voltage Distortion.



Min. N/A
Avg. N/A
Max. N/A

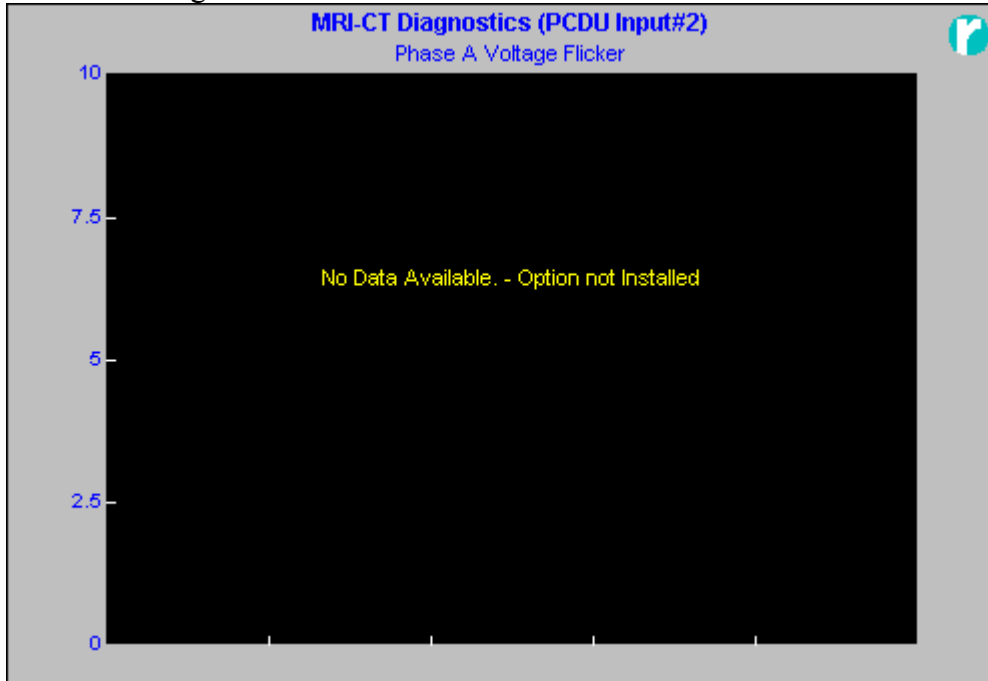
Phase C Voltage Distortion.



Min. N/A
Avg. N/A
Max. N/A

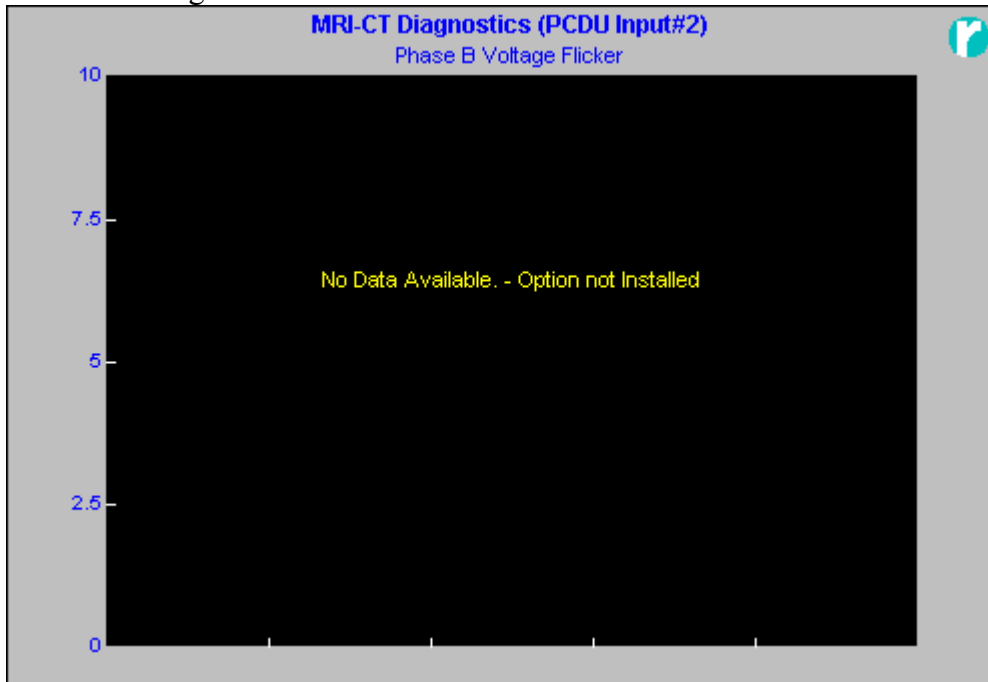
Voltage Flicker Summaries for PowerLines Sample:PCDU Input#2.

Phase A Voltage Flicker.



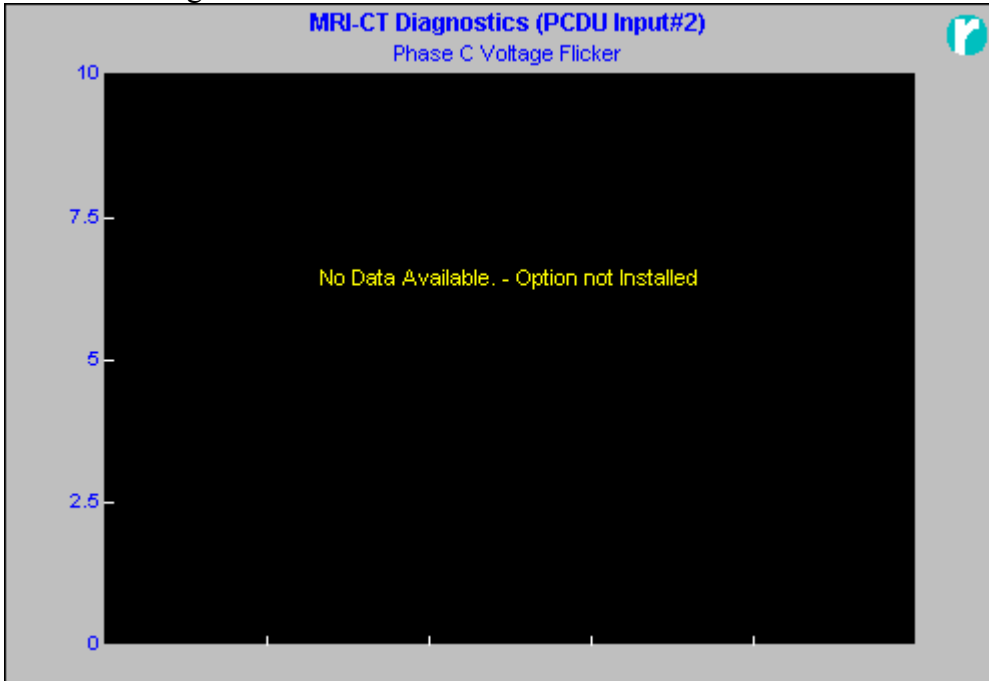
Min. N/A
Avg. N/A
Max. N/A

Phase B Voltage Flicker.



Min. N/A
Avg. N/A
Max. N/A

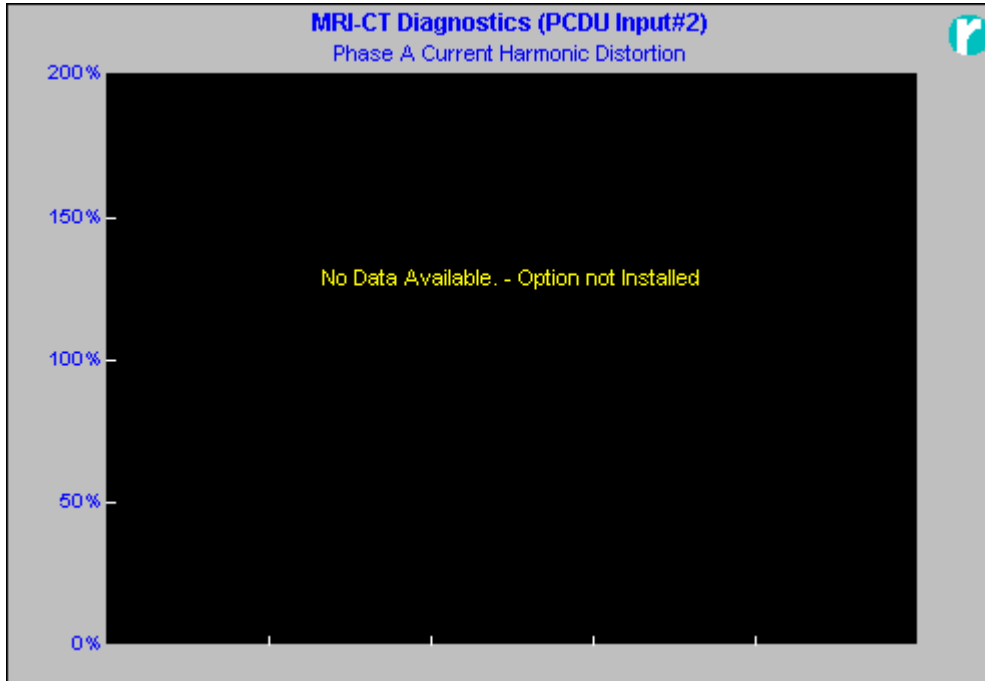
Phase C Voltage Flicker.



Min. N/A
Avg. N/A
Max. N/A

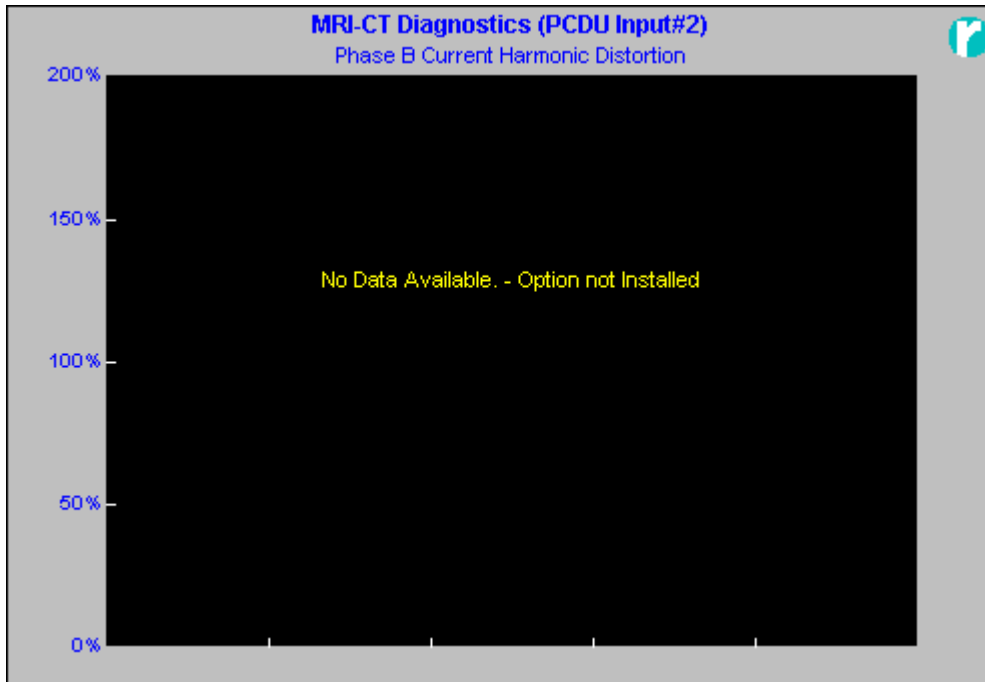
Current T.H.D. Summaries for PowerLines Sample:PCDU Input#2.

Phase A Current Distortion.



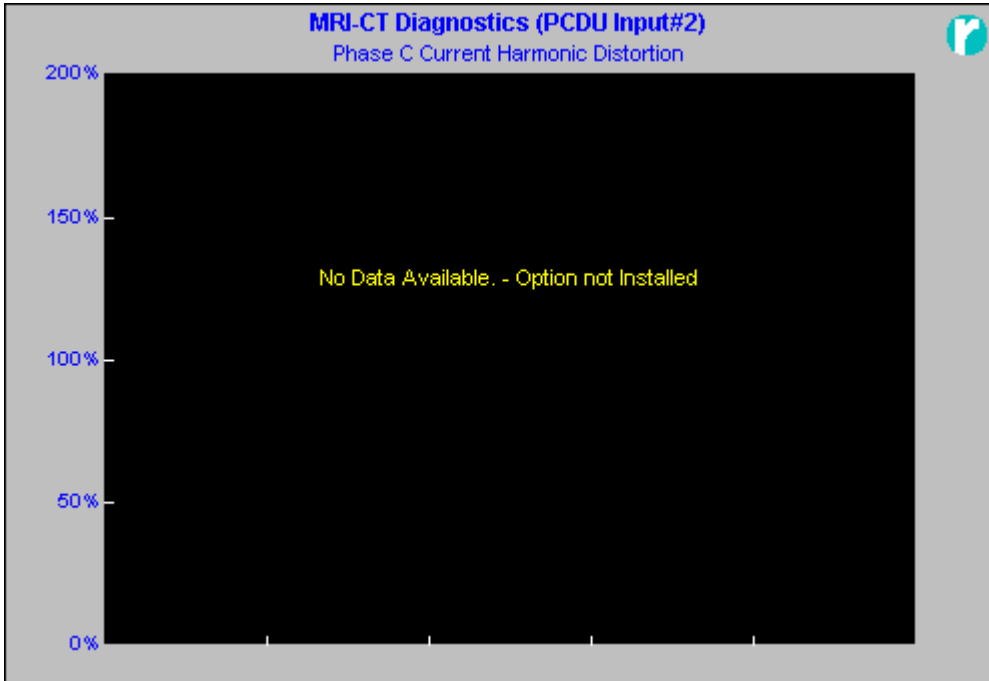
Min. N/A
Avg. N/A
Max. N/A

Phase B Current Distortion.



Min. N/A
Avg. N/A
Max. N/A

Phase C Current Distortion.



Min. N/A
Avg. N/A
Max. N/A

Power Summaries

Power measurements for PowerLines Sample:PCDU Input#2 from 06/20/02 18:13:18 through 07/18/02 18:13:18.

Imbalance	Value	Date and Time
Minimum Voltage Imbalance	0.24%	Jul 14 2002 15:28:18
Average Voltage Imbalance	0.420%	
Maximum Voltage Imbalance	0.63%	Jun 22 2002 18:13:18
Minimum Current Imbalance	4.14%	Jun 21 2002 06:58:18
Average Current Imbalance	15.39%	
Maximum Current Imbalance	20.65%	Jun 21 2002 18:43:18

VA Power	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	
Total minimum	N/A	
Total average	N/A	
Total maximum	N/A	

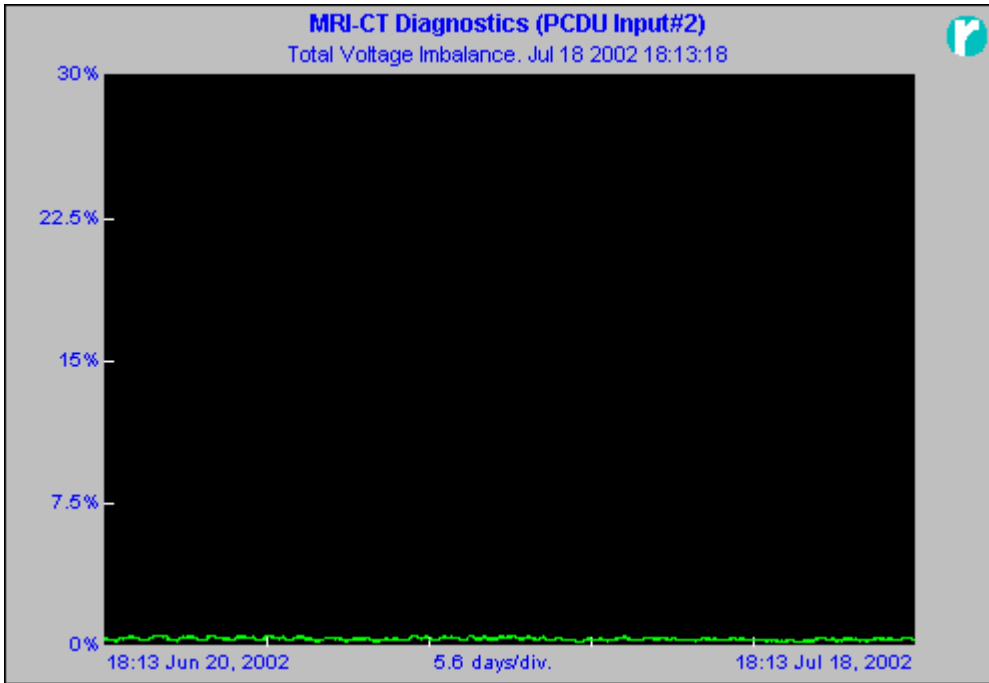
VARS Power	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	
Total minimum	N/A	
Total average	N/A	
Total maximum	N/A	

Watts Power	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	
Total minimum	N/A	
Total average	N/A	
Total maximum	N/A	

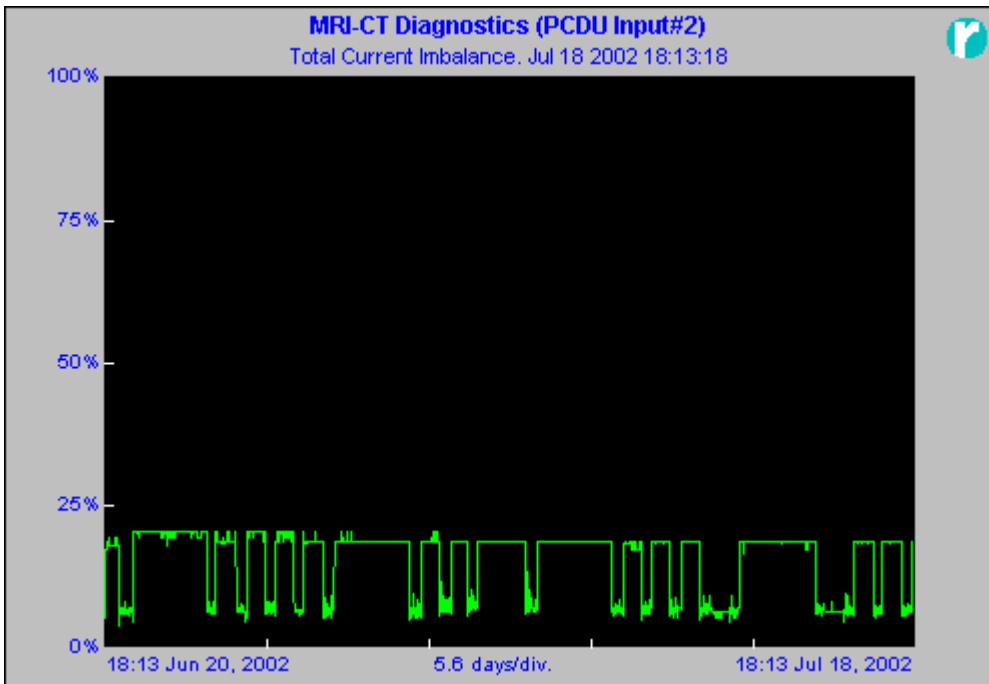
Demand Power	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	
Total minimum	N/A	
Total average	N/A	
Total maximum	N/A	

Power Factor	Value	Date and Time
Phase A minimum	N/A	
Phase A average	N/A	
Phase A maximum	N/A	
Phase B minimum	N/A	
Phase B average	N/A	
Phase B maximum	N/A	
Phase C minimum	N/A	
Phase C average	N/A	
Phase C maximum	N/A	
Total minimum	N/A	
Total average	N/A	
Total maximum	N/A	

Voltage and Current Imbalance Summaries for PowerLines Sample:PCDU Input#2.



Minimum Voltage Imbalance	0.24%	Jul 14 2002 15:28:18
Average Voltage Imbalance	0.420%	
Maximum Voltage Imbalance	0.63%	Jun 22 2002 18:13:18



Minimum Current Imbalance	4.14%	Jun 21 2002 06:58:18
Average Current Imbalance	15.39%	
Maximum Current Imbalance	20.65%	Jun 21 2002 18:43:18