Real Time Power Quality Compliance Report

EN50160 Individual Report Summary

 Power Frequency (x.1)	Pass
 Supply Voltage Variations (x.3.x)	Pass
 Rapid Voltage Changes (x.4.1)	Fail
 Flicker (x.4.2)	Pass
 Supply Voltage Dips (x.5)	Fail
 Short Interruption of Supply Voltage (x.6)	Pass
 Long Interruption of Supply Voltage (x.7)	Pass
 Temporary power frequency overvoltage (x.8)	Fail
 Supply Voltage Unbalance (x.10)	Pass
 Harmonic Voltage (x.11)	Pass
 Mains Signaling Voltage (x.13)	Pass

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for

Tue, 12 Aug 2014 10:29:56 -0500 to
Sun, 17 Aug 2014 23:59:59 -0500

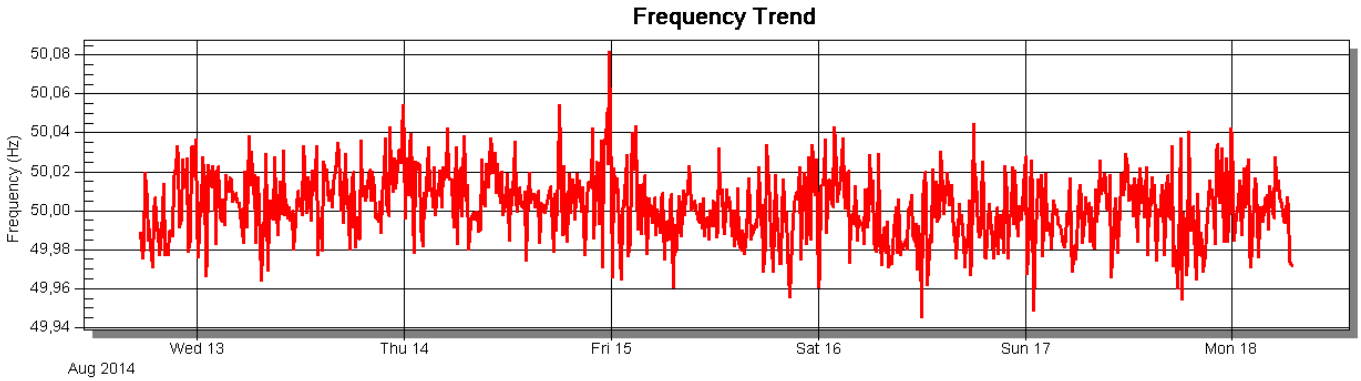
EN50160 (2007) Report Details

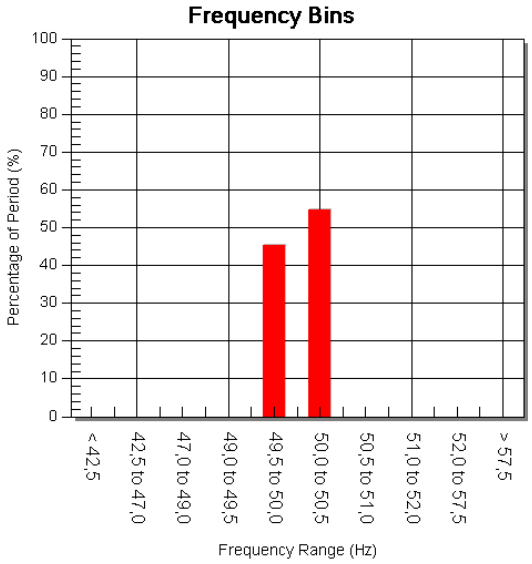
Meter Type	Nexus 1500
Meter Name	0000000132848026
Serial Number	0000000132848026
Runtime Firmware	4.0000
Profile CRC	0xCE3F
Profile Update Time	2014-08-08 20:12:48
Hookup	Wye
Nominal Frequency	50Hz
Supply Type	Low Voltage
Synchronous Connection	No
Nominal Voltage	230v
Voltage Phase to Neutral Full Scale	230.000
Voltage Phase to Phase Full Scale	398.000
Mains Signaling Threshold	100.00
Phase AE Over-voltage Threshold	120.00
Phase BE Over-voltage Threshold	120.00
Phase CE Over-voltage Threshold	120.00
Allowed Long Interruptions in a Year	0
Rapid Voltage Change Source	10/12 cycles updated RMS
Unbalance Upper Limit	2%
Voltage A Dip Concern	10%
Voltage B Dip Concern	10%
Voltage C Dip Concern	10%
Source Data Version	1
Report Type	Weekly
Report Date Range	2014-08-12 to 2014-08-17

Section x.1 Power Frequency (Not Synchronized)

Pass

Under normal operating conditions for a non-synchronized system, the mean value of the fundamental frequency measured over 10 seconds shall be within ±2% of the nominal frequency for 95% of a week, and within ±15% for 100% of the year. This report gives the results over the course of the specified period.





Results Summary

Zone	Required	Actual	Result
±2%	95%	100.00%	Passed
±15%	100%	100.00%	Passed

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for
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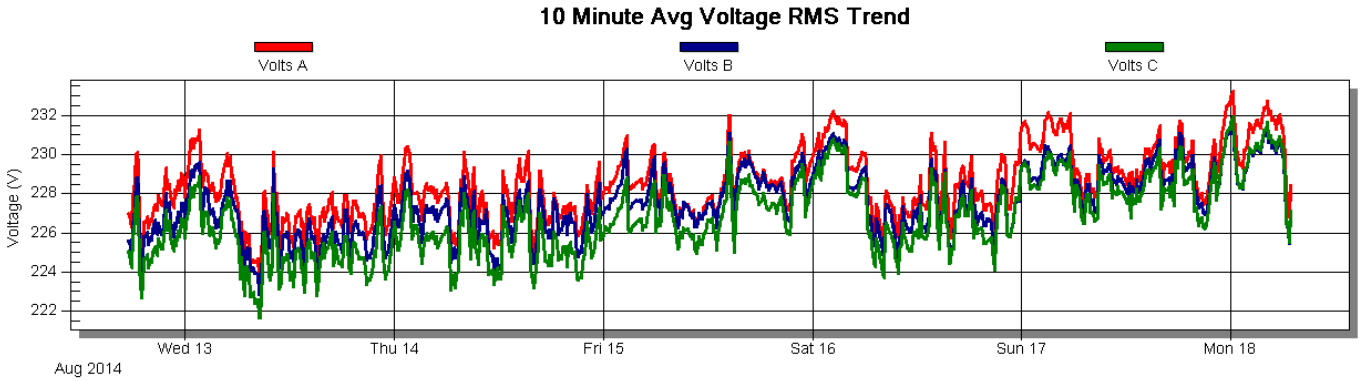
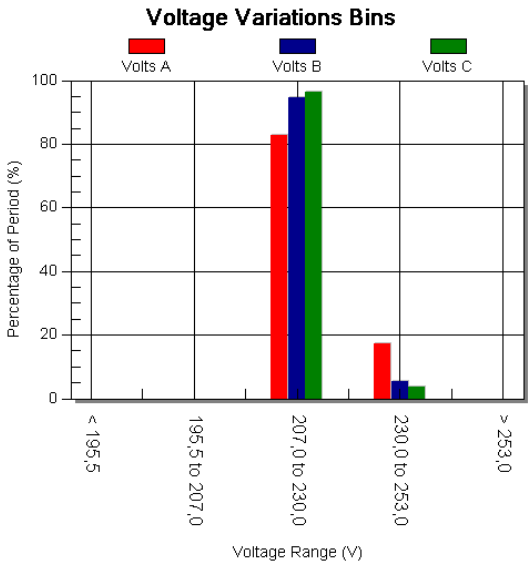
Section x.3.x Supply Voltage Variations

Pass

Supply voltage shall vary no more than ±10% of Un for 95% of the week. The voltage must be within +10%/-15% of Un all of the time. Situations like those arising from faults or voltage interruptions, the circumstances of which are beyond the reasonable control of the parties, are excluded.





Results Summary

Zone	Required	Volts A	Volts B	Volts C
±10%	95%	100.00%	100.00%	100.00%
-15% to 10%		100.00%	100.00%	100.00%

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for
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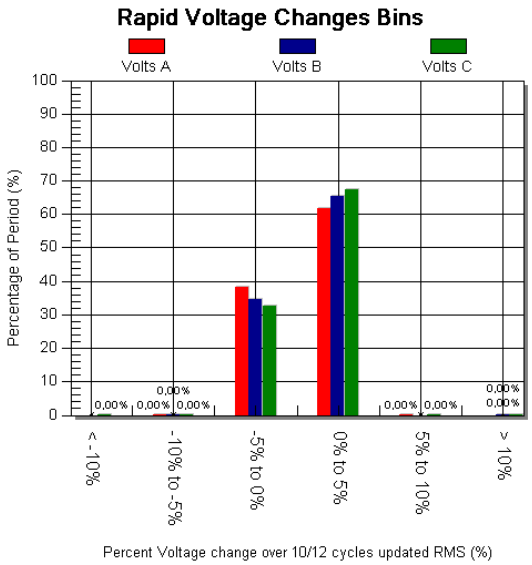
RVC

Section x.4.1 Rapid Voltage Changes

Fail

A rapid voltage change of the supply voltage is mainly caused either by load changes in network users' installations, or by switching in the system. Under normal operating conditions, a rapid voltage change generally does not exceed ±5% Un, but a change of up to ±10% Un with a short duration might occur some times per day in some circumstances. Note: A negative voltage change resulting in a voltage less than 90% Un is considered a supply voltage dip.

Note: The results displayed for ±10% Un are over the course of the week, and do not represent a single day. 7 ±10% changes are allowed in one week.



Results Summary

Zone	Required	Volts A	Volts B	Volts C
±5%		100,00%	100,00%	100,00%
±10%	7	2	1	5
> ±10%	0	0	1	6

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for

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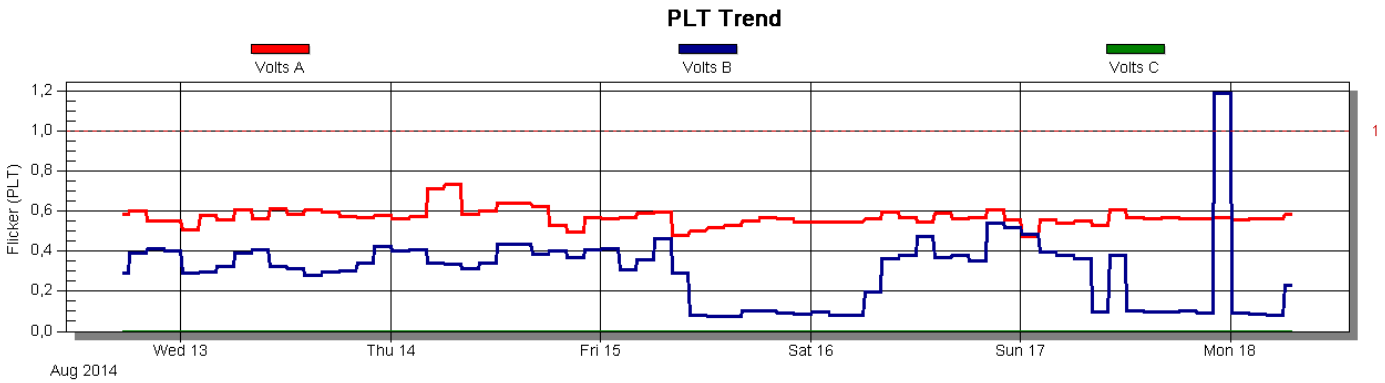
Flicker

Section x.4.2 Flicker

Pass

Flicker is the impression of unsteadiness of visual sensation induced by a light stimulus whose luminance or spectral distribution fluctuates with time. Under normal operating conditions, during a period of one week, the long term flicker (PLT) severity caused by voltage fluctuations should be <= 1 for 95% of the time.



Results Summary

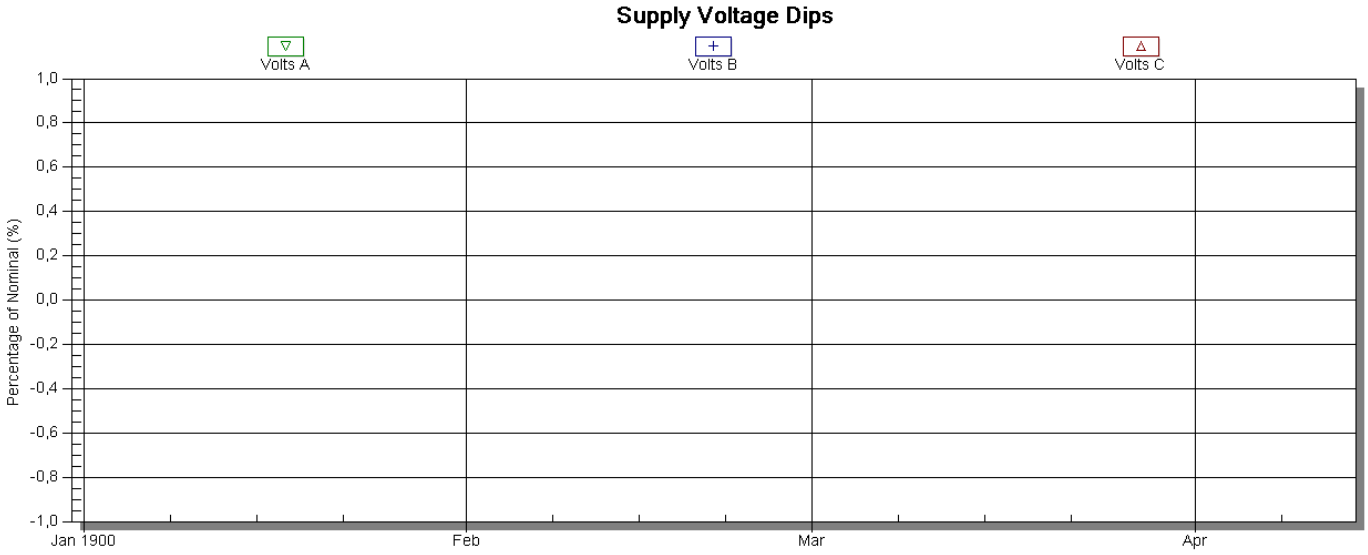
Zone	Required	Volts A	Volts B	Volts C
<= 1	95%	100,00%	98,48%	96,97%
> 1		0,00%	1,52%	3,03%

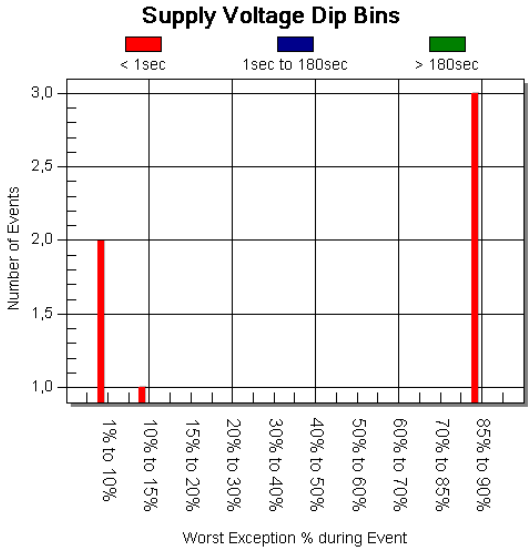
Section x.5 Supply Voltage Dips

Fail

A Supply Voltage Dip is a sudden reduction of the supply voltage to a value between 90% and 1% of the declared voltage Uc, followed by a recovery after a short period of time.

Under normal operating conditions, the expected number of voltage dips in a year may be from a few tens up to one thousand. The majority of voltage dips have a duration less then 1s and a retained voltage greater then 10%. However, voltage dips with greater depth and duration can occur infrequently.





Results Summary

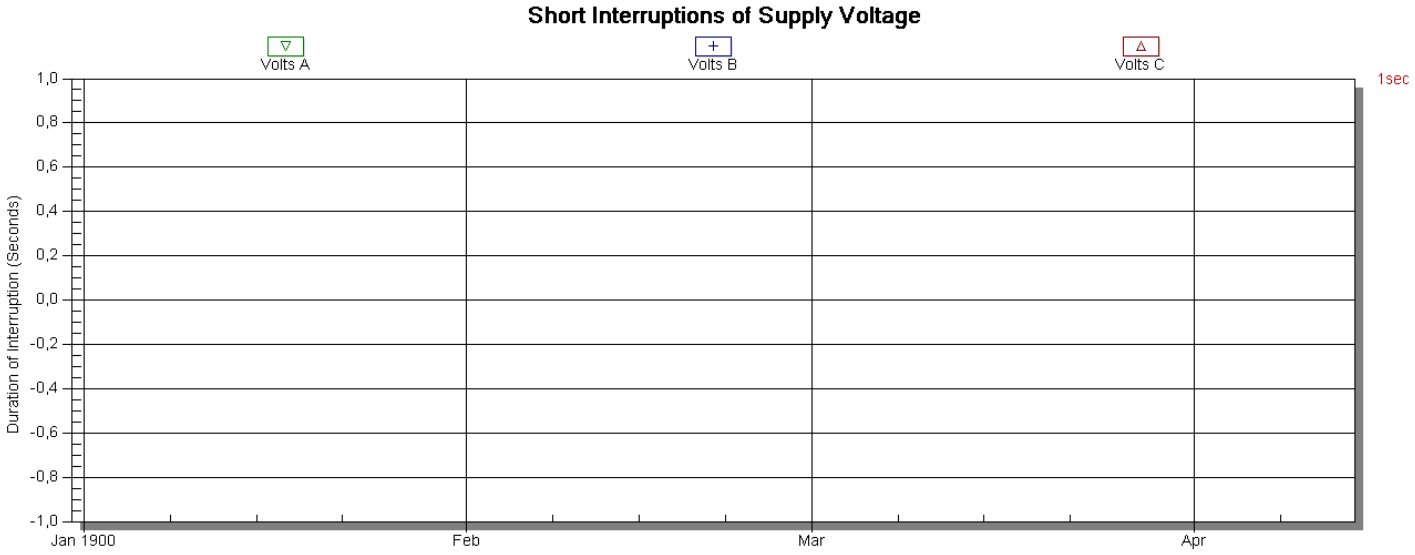
Zone	Volts A	Volts B	Volts C
1% to 10%	0	0	2
10% to 15%	0	0	1
15% to 20%	0	0	0
20% to 30%	0	0	0
30% to 40%	0	0	0
40% to 50%	0	0	0
50% to 60%	0	0	0
60% to 70%	0	0	0
70% to 85%	0	0	0
85% to 90%	0	1	2

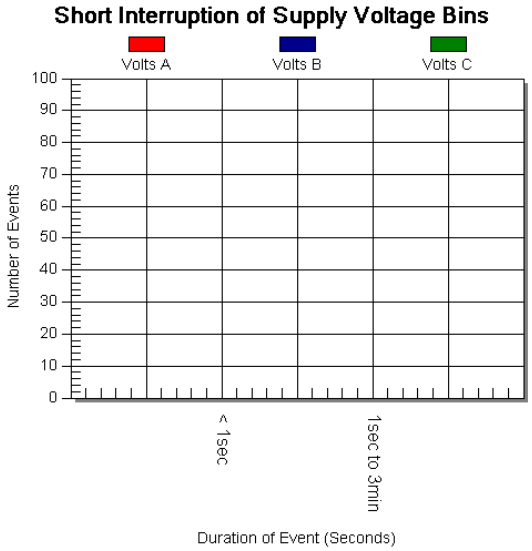
Section x.6 Short Interruption of Supply Voltage

Pass

An Interruption of Supply Voltage is a condition in which the voltage at the supply terminals is lower than 1% of the declared voltage Uc. A Short Interruption is defined as an event which lasts for less than 3 minutes.

Under normal operating conditions, the annual occurence of short interruptions ranges from a few tens to several hundreds. The duration of approximately 70% of the Short Interruptions may be less than one second.





Results Summary

Zone	Required	Volts A	Volts B	Volts C
< 1sec		0	0	0
1sec to 3min		0	0	0

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Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for
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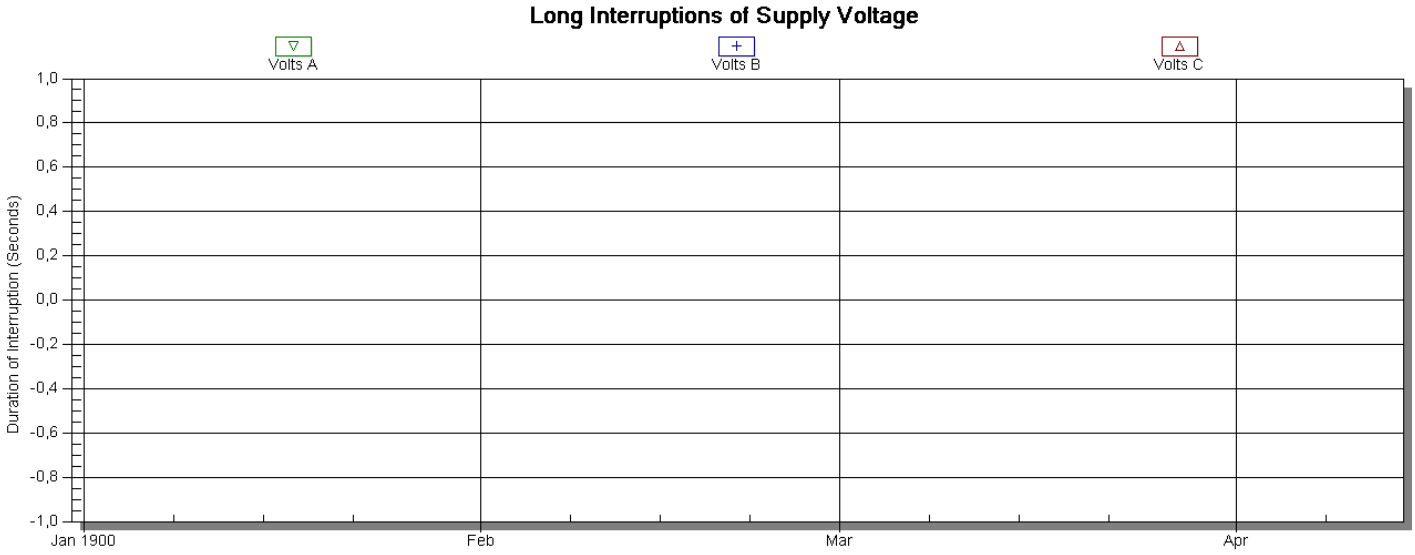
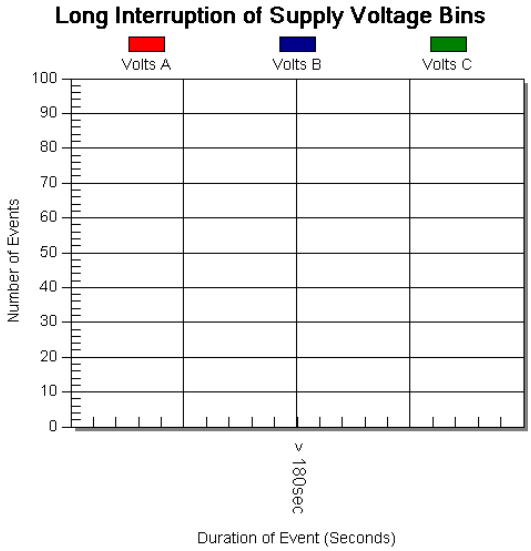
Section x.7 Long Interruption of Supply Voltage

Pass

An Interruption of Supply Voltage is a condition in which the voltage at the supply terminals is lower than 1% of the declared voltage Uc. A Long Interruption is defined as an event which lasts for more than 3 minutes.

Under normal operating conditions, the annual occurence of long interruptions ranges from 10 to 50, depending on the area. This location is allowed up to 0 long interruptions per year.





Results Summary

Zone	Required	Volts A	Volts B	Volts C
> 3min	0	0	0	0

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for
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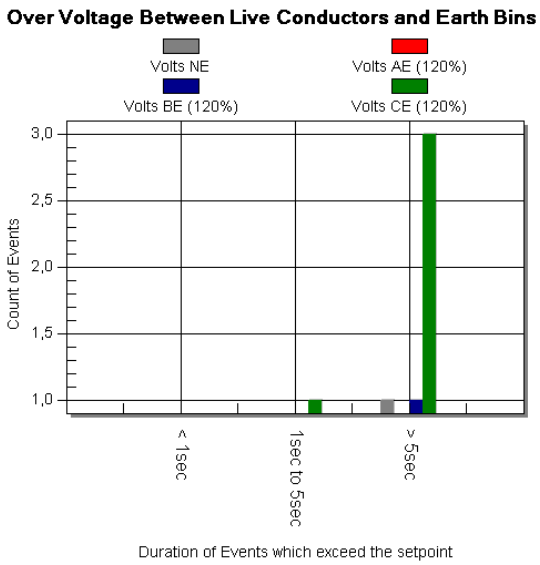
Section x.8 Temporary Power Frequency Overvoltage

Fail

A temporary power frequency overvoltage generally appears during a fault in the public distribution network, or in a network user's installation, and disappears when the fault is cleared. Under these conditions, the overvoltage may reach the value of the phase-to-phase voltage, due to a shift of the neutral point of the three-phase voltage system, the actual value depending upon the degree of load unbalance, and the remaining impedance between the faulty conductor and earth.

The duration of the event is limited by the time taken for protection to clear the fault, typically no more than 5 seconds.



Results Summary

Zone	Required	Vne	Vae	Vbe	Vce
< 1sec		0	0	0	0
1sec to 5sec		0	0	0	1
> 5sec	0%	1	0	1	3

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Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for

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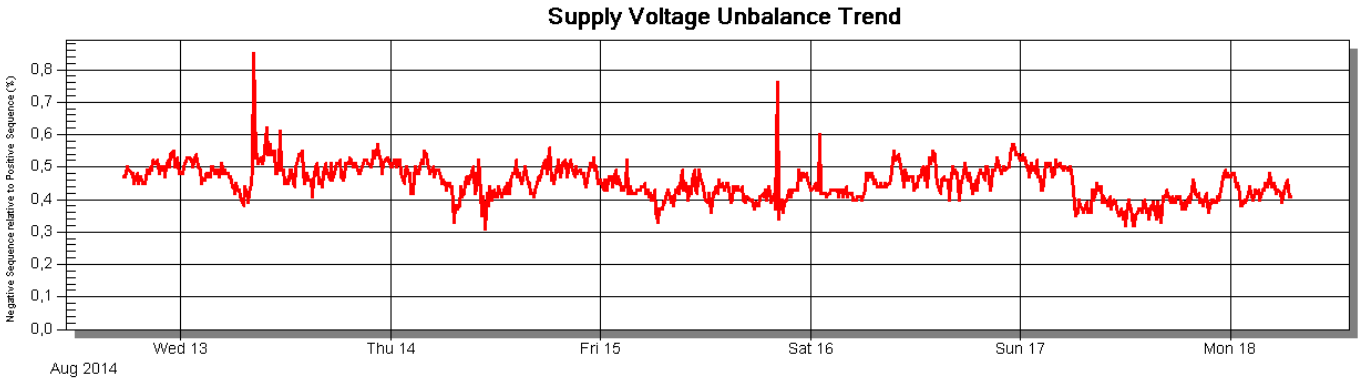
Section x.10 Supply Voltage Unbalance

Pass

Under normal operating conditions, during each period of one week, 95% of the 10 minute mean RMS values of the negative phase sequence component (fundamental) of the supply voltage shall be within the range of 0% to 2% of the positive phase sequence component (fundamental).



Results Summary

Zone	Required	Actual	Result
0% to 2%	95%	99,88%	Passed
> 2%		0,13%	Passed

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for
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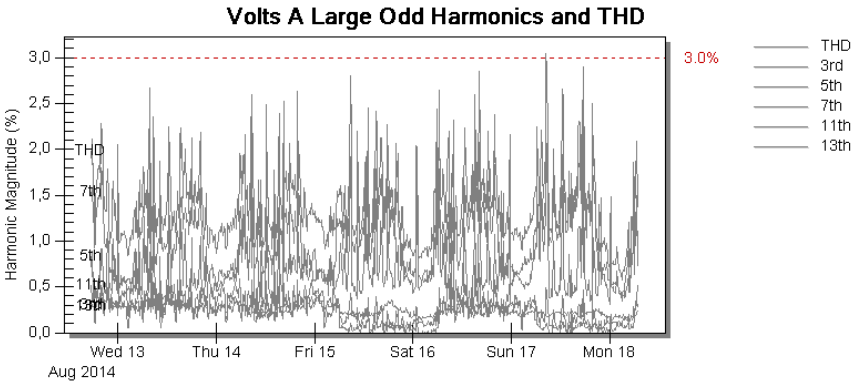
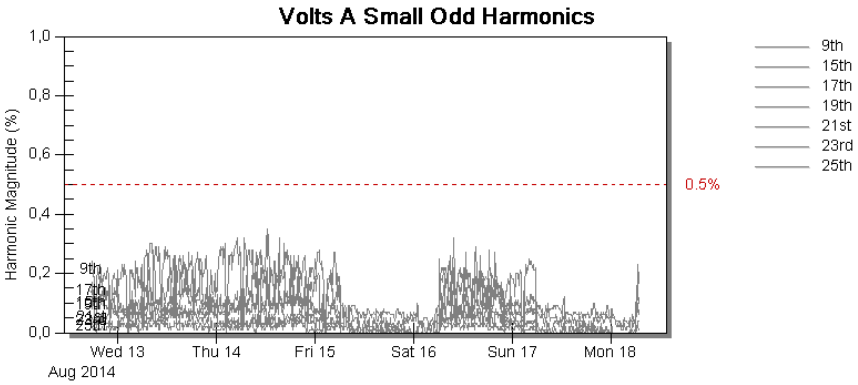
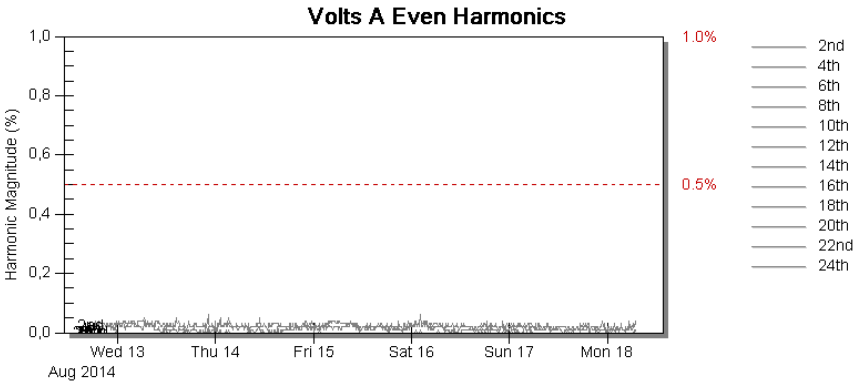
Section x.11 Harmonic Voltage

Pass

Under normal operating conditions, during each period of one week, 95% of the 10 min mean RMS values of each individual harmonic voltage shall be less than or equal to the limit value given in the results table. Additionally, the THD of the supply voltage (including all harmonics up to the 40th order) shall be less than or equal to 8%.







Volts A Harmonic Summary

Zone	Required	Limit	% Out
THD	0%	8%	0,00%
2nd	<= 5%	2%	0,00%
3rd	<= 5%	5%	0,00%
4th	<= 5%	1%	0,00%
5th	<= 5%	6%	0,00%
6th	<= 5%	0.5%	0,00%
7th	<= 5%	5%	0,00%
8th	<= 5%	0.5%	0,00%
9th	<= 5%	1.5%	0,00%
10th	<= 5%	0.5%	0,00%
11th	<= 5%	3.5%	0,00%
12th	<= 5%	0.5%	0,00%
13th	<= 5%	3%	0,00%
14th	<= 5%	0.5%	0,00%
15th	<= 5%	0.5%	0,00%
16th	<= 5%	0.5%	0,00%
17th	<= 5%	2%	0,00%
18th	<= 5%	0.5%	0,00%
19th	<= 5%	1.5%	0,00%
20th	<= 5%	0.5%	0,00%
21st	<= 5%	0.5%	0,00%
22nd	<= 5%	0.5%	0,00%
23rd	<= 5%	1.5%	0,00%
24th	<= 5%	0.5%	0,00%
25th	<= 5%	1.5%	0,00%

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for

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Real Time Power Quality Compliance Report

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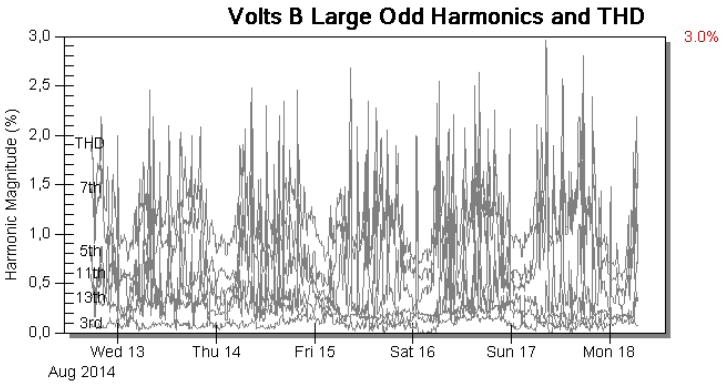

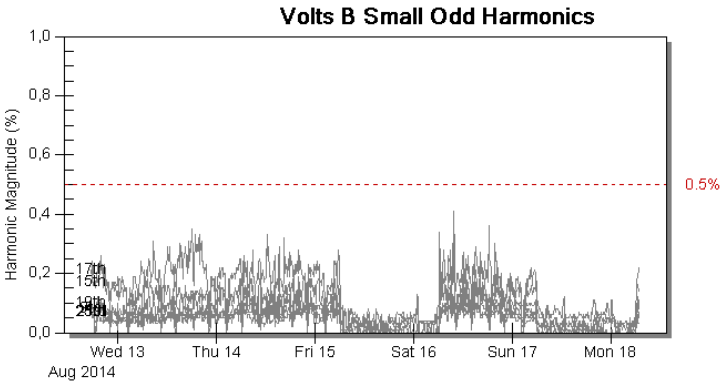

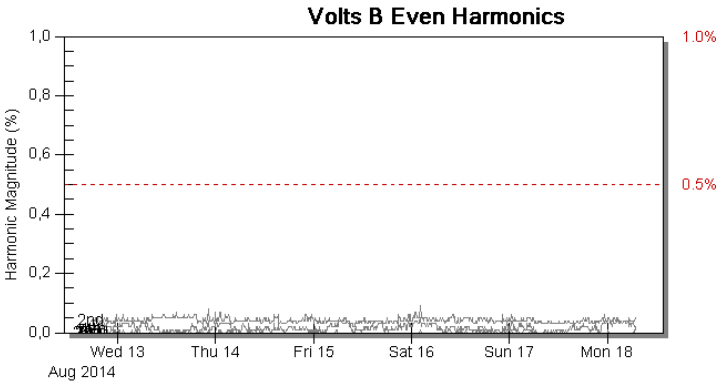

Volts B Harmonic Summary

Zone	Required	Limit	% Out
THD	0%	8%	0,00%
2nd	<= 5%	2%	0,00%
3rd	<= 5%	5%	0,00%
4th	<= 5%	1%	0,00%
5th	<= 5%	6%	0,00%
6th	<= 5%	0.5%	0,00%
7th	<= 5%	5%	0,00%
8th	<= 5%	0.5%	0,00%
9th	<= 5%	1.5%	0,00%
10th	<= 5%	0.5%	0,00%
11th	<= 5%	3.5%	0,00%
12th	<= 5%	0.5%	0,00%
13th	<= 5%	3%	0,00%
14th	<= 5%	0.5%	0,00%
15th	<= 5%	0.5%	0,00%
16th	<= 5%	0.5%	0,00%
17th	<= 5%	2%	0,00%
18th	<= 5%	0.5%	0,00%
19th	<= 5%	1.5%	0,00%
20th	<= 5%	0.5%	0,00%
21st	<= 5%	0.5%	0,00%
22nd	<= 5%	0.5%	0,00%
23rd	<= 5%	1.5%	0,00%
24th	<= 5%	0.5%	0,00%
25th	<= 5%	1.5%	0,00%

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for

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Real Time Power Quality Compliance Report

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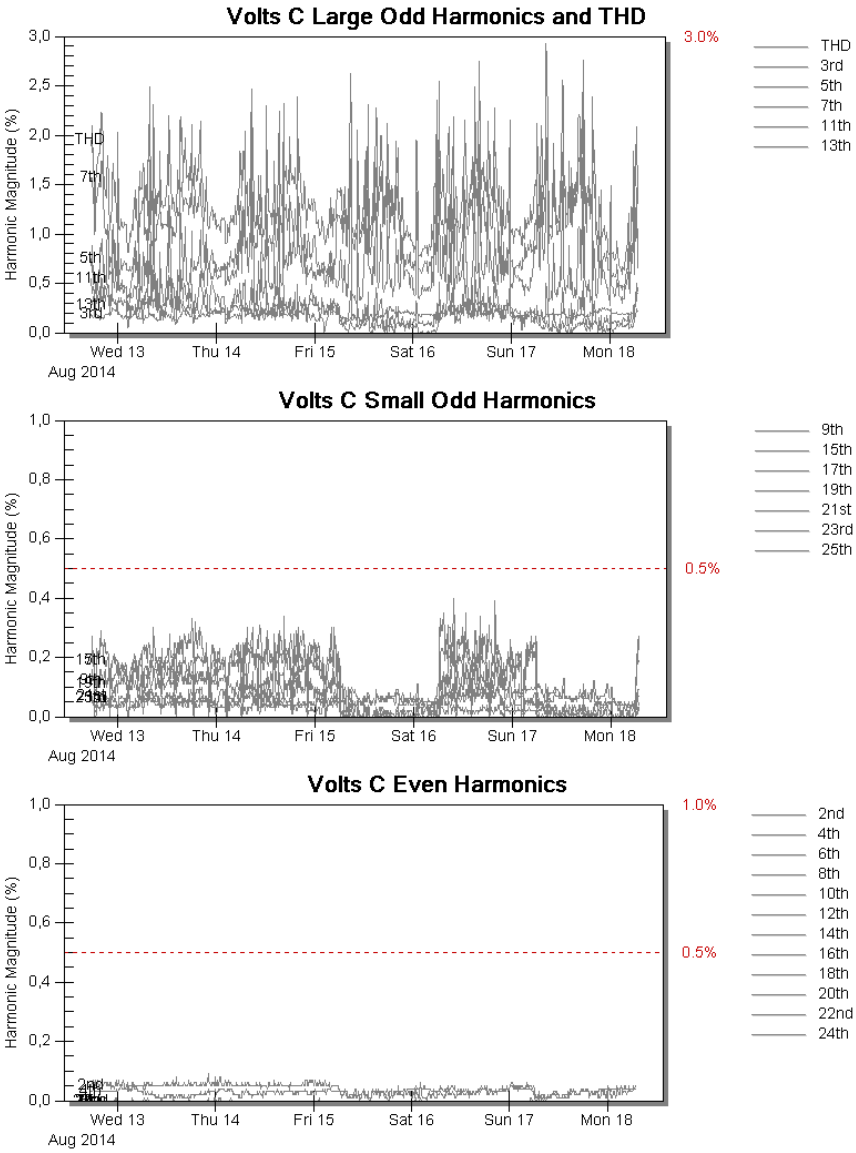

Volts C Harmonic Summary

Zone	Required	Limit	% Out
THD	0%	8%	0,00%
2nd	<= 5%	2%	0,00%
3rd	<= 5%	5%	0,00%
4th	<= 5%	1%	0,00%
5th	<= 5%	6%	0,00%
6th	<= 5%	0.5%	0,00%
7th	<= 5%	5%	0,00%
8th	<= 5%	0.5%	0,00%
9th	<= 5%	1.5%	0,00%
10th	<= 5%	0.5%	0,00%
11th	<= 5%	3.5%	0,00%
12th	<= 5%	0.5%	0,00%
13th	<= 5%	3%	0,00%
14th	<= 5%	0.5%	0,00%
15th	<= 5%	0.5%	0,00%
16th	<= 5%	0.5%	0,00%
17th	<= 5%	2%	0,00%
18th	<= 5%	0.5%	0,00%
19th	<= 5%	1.5%	0,00%
20th	<= 5%	0.5%	0,00%
21st	<= 5%	0.5%	0,00%
22nd	<= 5%	0.5%	0,00%
23rd	<= 5%	1.5%	0,00%
24th	<= 5%	0.5%	0,00%
25th	<= 5%	1.5%	0,00%

Meter Name	0000000132848026
Serial	0000000132848026
Nominal Frequency	50Hz
Nominal Voltage (Un)	230v

Weekly report for

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Section x.13 Mains Signaling Voltage

Pass

In some countries the public distribution networks may be used by the public supplier for the transmission of signals. Over 99% of a day, the 3 second mean of the signal voltage shall be less than or equal to the mains signaling threshold.

The Mains Signaling Threshold is 100,00% of Un, or 230V.

Results Summary

Zone	Required	Vae	Vbe	Vce
<= 100% Un	99%	100,00%	100,00%	100,00%
> 100% Un	<= 1%	0,00%	0,00%	0,00%