

# PQDashboard User's Group

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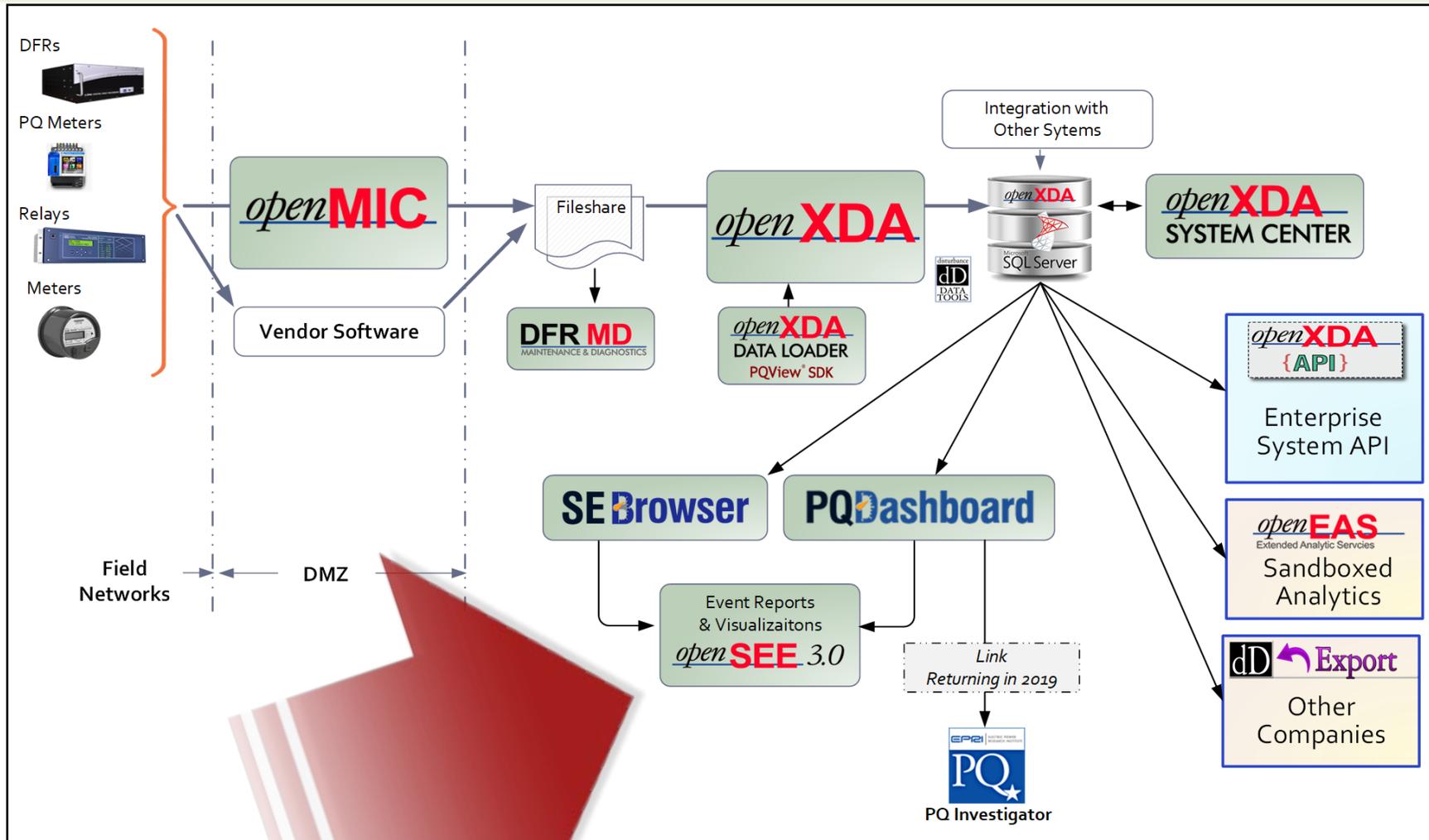
*open* **SEE** 3.0 <sup>BETA</sup>  $\beta$

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System Event Explorer  
Overview & Demonstration

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May 9, 2019

# Open System Event Explorer – The Waveform Tool for openXDA db



## Redesign Objectives

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- Purpose: To improve efficiency of event investigation and provide analytic capability to field staff
- A complete refactoring – but retaining all the functionality from the existing version of openSEE
- Add a small set of the most useful analytics
- Add the ability to compare waveforms from multiple events
- URL-driven to allow links to be placed into emails and investigation reports
- Architected to facilitate the addition of new data tools and analytics

# New Grouping of Navigation Features

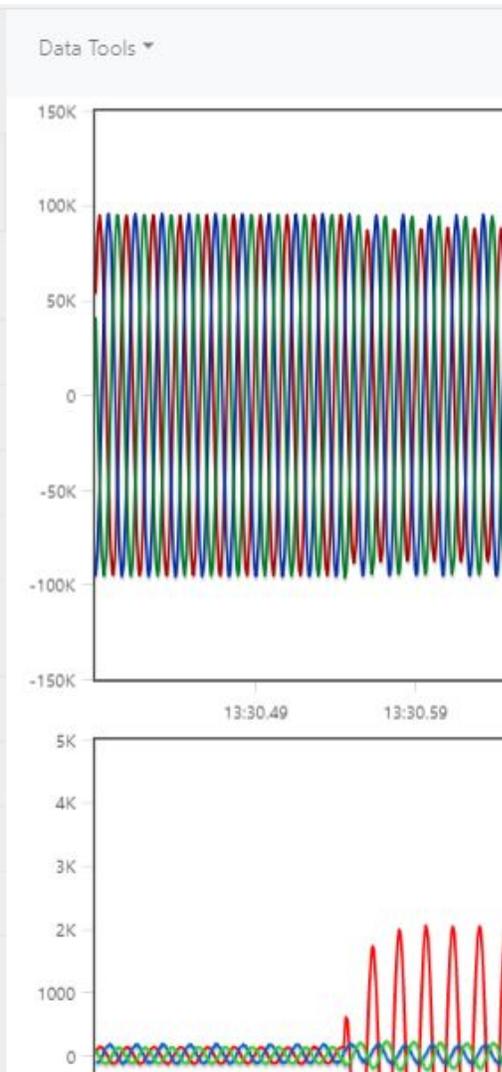
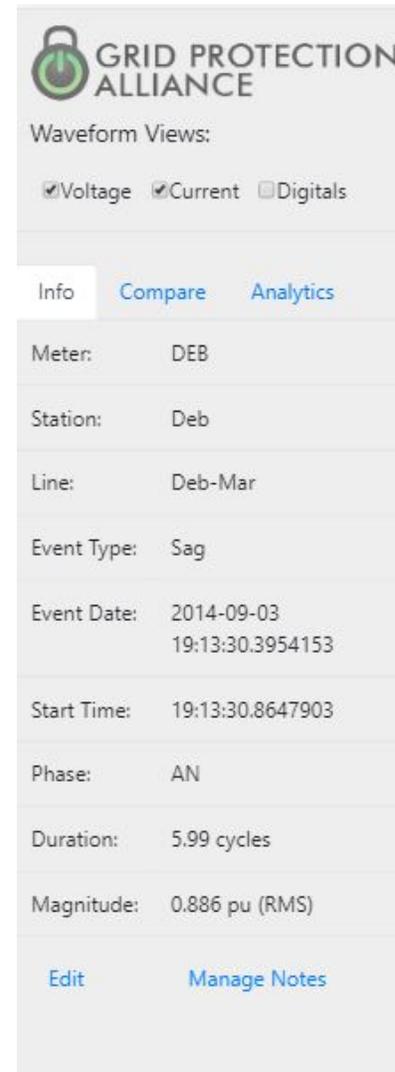
- Title Bar**  
*Data Tools Menu, Zoom Reset, Next / Previous Waveform*
  
- Selection Panel**  
*Data type selection, Summary data, Compare, Analytics, “about”*
  
- V & I Waveforms**  
*Zoomable, scrollable measurement waveform window*
  
- Analytic Results**  
*Output of the selected analytic*
  
- Charting Options**  
*Values to display*



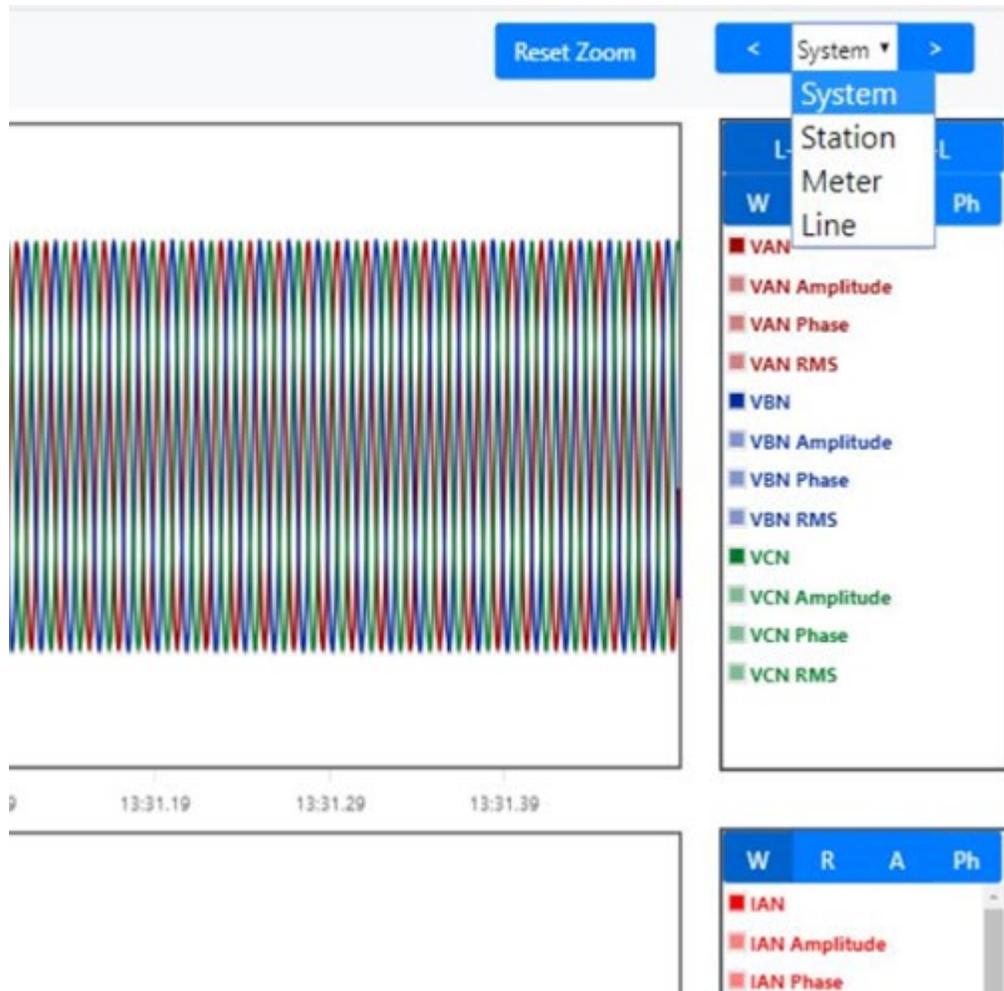
# Summary Information

## Waveform Summary Information:

- Meter
- Station
- Line
- Event Typing
- Waveform Start Time
- Event Start Time
- Phase
- Duration
- Magnitude
- Notes



# Moving to a New Waveform of Interest



- Set the context picker
  - System
  - Station
  - Meter
  - Line
- Click <<(back) or >>(forward) to load new waveform within context

# Data Tools

- Points Table
- Tooltip
- Tooltip w/ Delta
- Phasor
- Stats
- Correlated Sags
- Export CSV
- Export COMTRADE

Value

Export(csv)

Stat

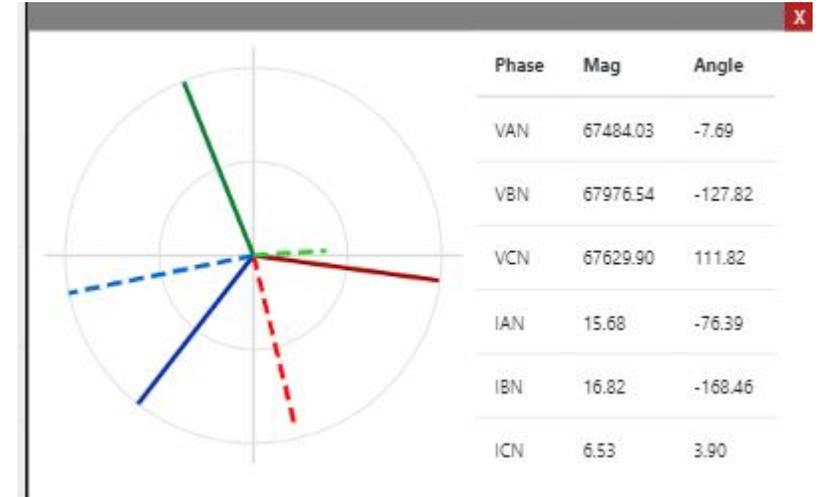
EventID: 63

Station: Deb

Meter: DEB

Line: LMarDeb

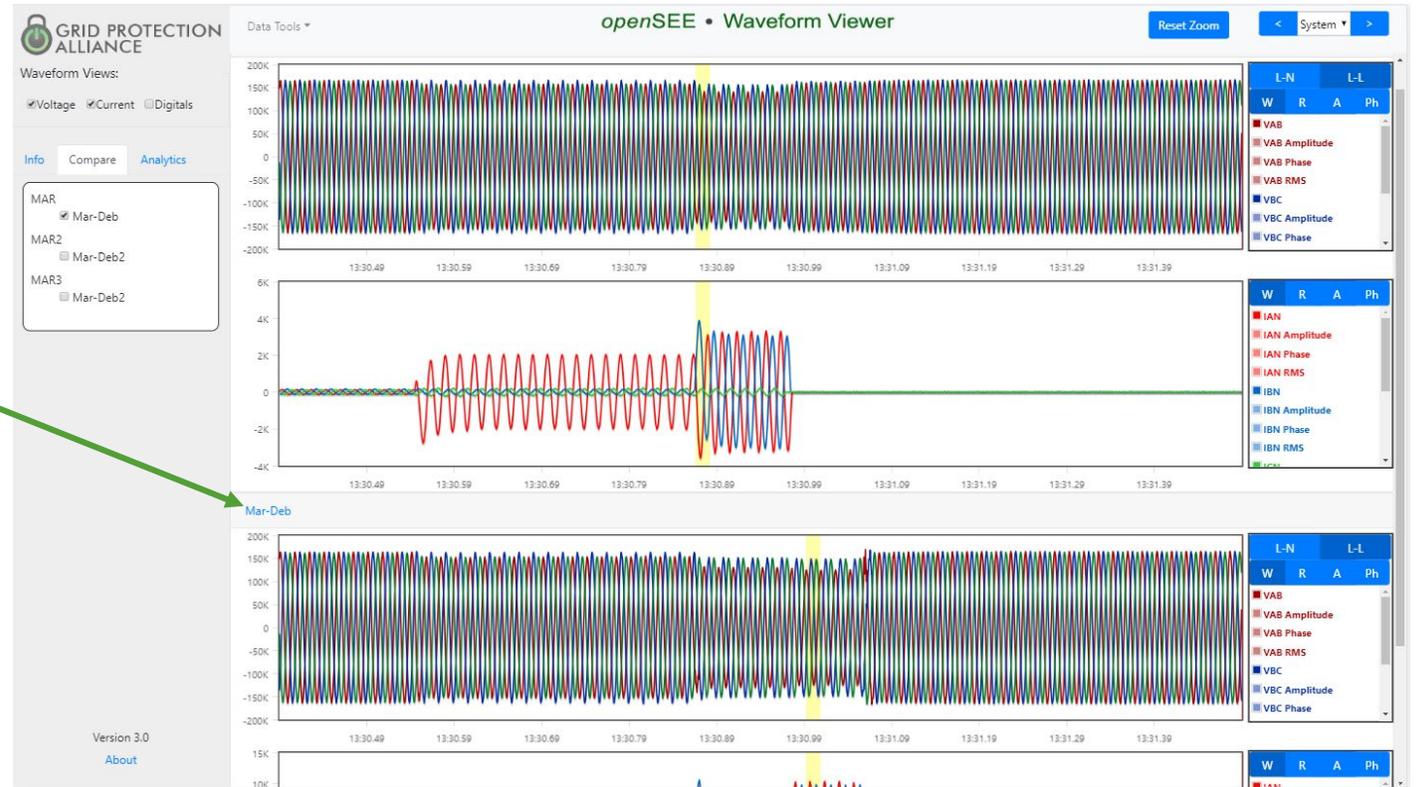
EventType	Value
FileDuration	VAN -78703.25
Distance	VBN -5757.83
DurationCycl	VCN 85020.40
SagDepth	IAN -124.04
IsSelectedAlg	IBN 34.97
I2t	ICN 94.00



	2014-09-03T19:13:31.063407	2014-09-03T19:13:30.7426714	-0.320735595703125 (s)
VAN	33431.64	51465.04	18033.40
VBN	-93335.34	39208.06	132543.40
VCN	58669.35	-93752.60	-152421.95
IAN	4.01	1995.02	1991.01
IBN	12.96	7.97	-5.00
ICN	11.00	-181.00	-192.00

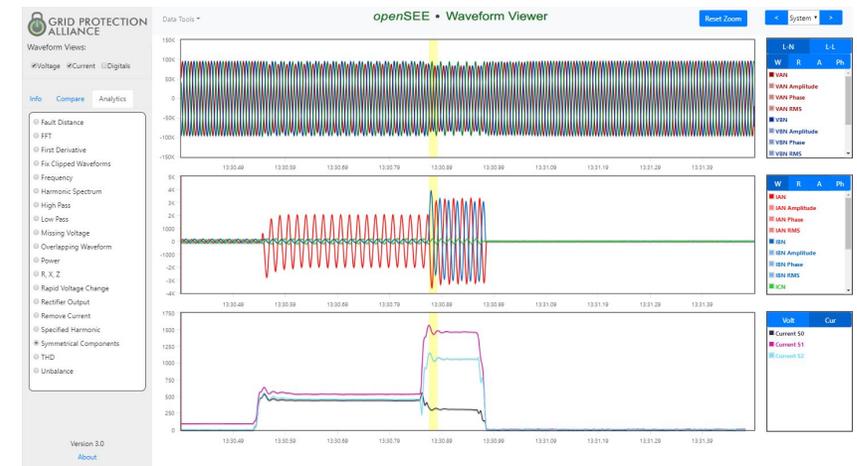
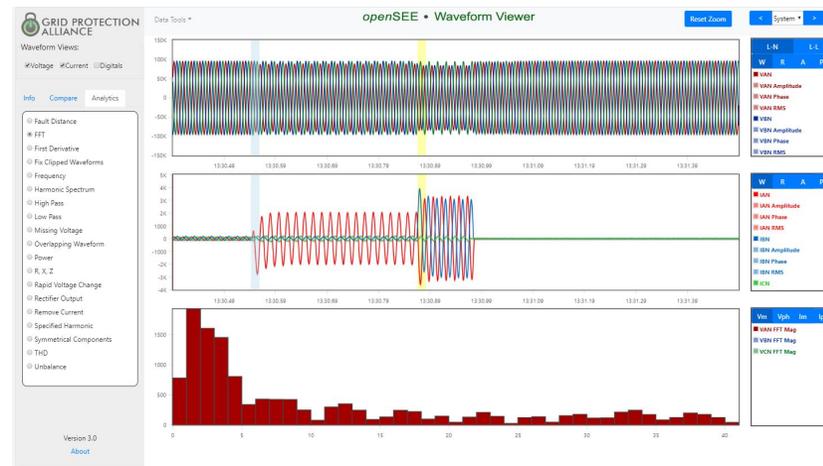
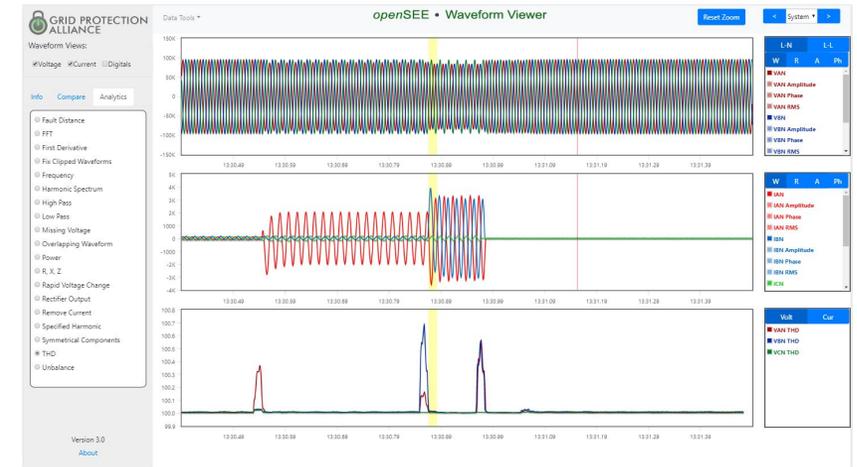
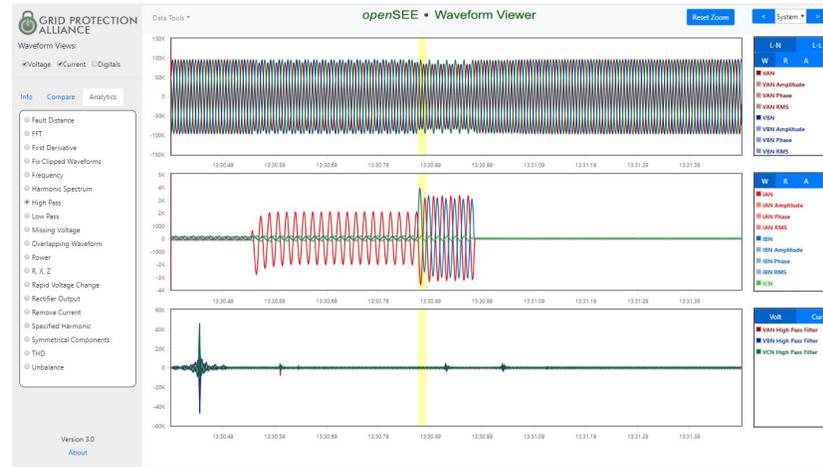
# Compare Waveforms

- Overlapping asset picker that allows for selecting multiple assets
- Time aligned among events
- Click on asset name to open a new window of openSEE with that event as primary (top of stack)



# Analytics

- Fault Distance
- FFT
- First Derivative
- Fix Clipped Waveforms
- Frequency
- Harmonic Spectrum
- High Pass Filter
- Low Pass Filter
- Missing Voltage Filter
- Overlapping Waveform
- Power
- Impedance
- Rapid Voltage Change
- Rectifier Output
- Remove Current Filter
- Specified Harmonic
- Symmetrical Components
- THD
- Unbalance



# Charting Options

- Each graph type has a set of display options.
- Clicking blue buttons at top will hide/display all channels associated with that type.
- Clicking button next to legend name hides/displays that channel.
- Drop downs and input boxes allow you to chose harmonics and number of cycles.

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