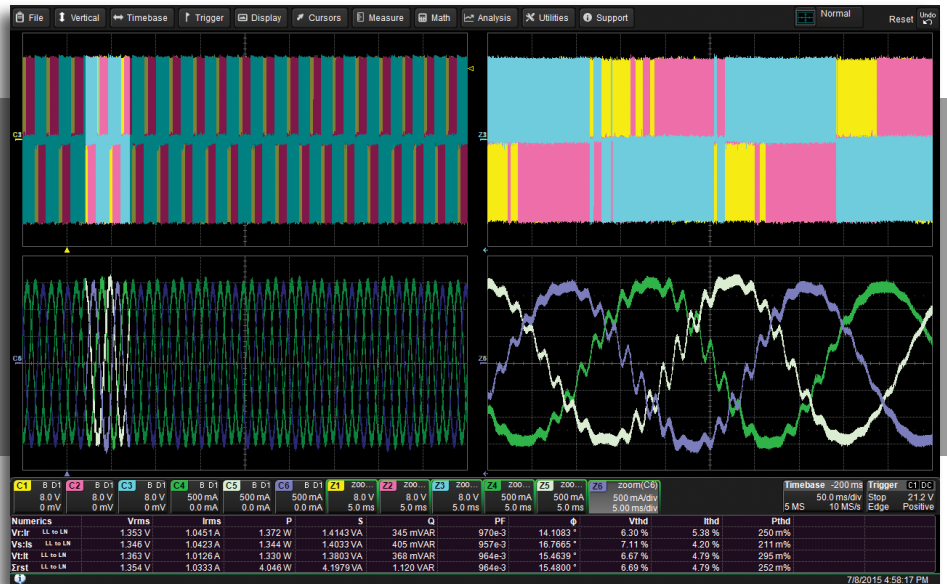


MDA Harmonics Calculation Option



Key Features

- Complete harmonic content calculation and analysis
- Graphical “Spectral” display
- Tabular harmonics calculation display by harmonic order
- “Fixed Frequency” or “Variable Frequency” calculation modes
- Results in Units (A, V, or W), %, or dB.
- Pre-compliance pass/fail testing to EN 61000-3-2 Class A equipment limits or user-defined limits
- Total Harmonic Distortion (THD) per-cycle Numeric Table parameters and waveforms for voltage, current, and power
- Addition of Numeric Table Harmonic Filter capability for “Fundamental + N” or selectable “Range”
- Easy to use and intuitive setup

The MDA Harmonics Calculation option further extends the capability of the MDA800 series by adding the ability to measure and display harmonics values for current, voltage, and power on the AC Line Input or Drive Output. Results are displayed graphically with a Spectral display and in a table format. The option also adds capability for per-cycle total harmonic distortion (THD) measurements and waveforms, and advanced Harmonic Filtering for voltage, current, power, etc. measurements in the Numeric table.

Harmonics Measurements

Harmonic calculations up to a user-defined harmonic order are calculated and displayed in a table and as a Spectral view. Up to 9 calculations may be made at one time (each voltage, current and power for each phase of a three-phase system) with concurrent Spectral trace views. Current harmonic values may be compared to standard limits for EN 61000-3-2 Class A equipment or to a user-defined limit

THD parameters

THD per-cycle measurement capability is added to the Numerics table selection. THD can be displayed simultaneously for each phase and for the three-phase total for voltage, current and power. Each THD per-cycle measurement values can also

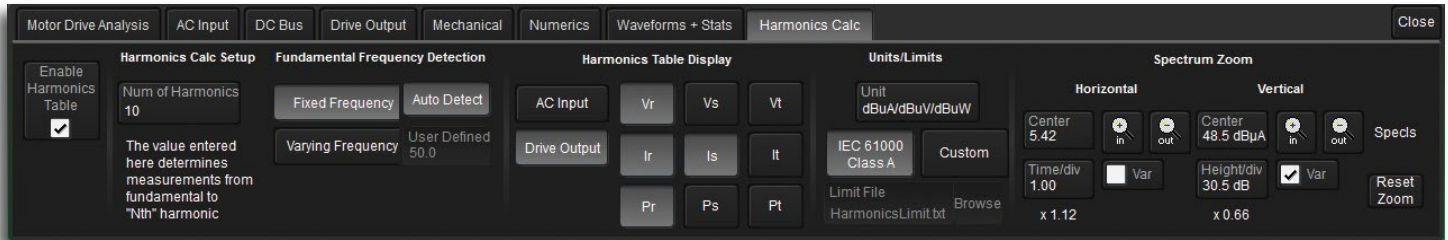
be shown as a Waveform of THD over time, providing valuable insights and correlation to other behaviors.

Harmonic Filter “Range” and Fundamental + N Selections

Two new Harmonic Filters settings are added to the AC Input and Drive Output setups. The Fundamental + N filter will filter the input waveforms from the fundamental frequency to the Nth order (harmonic). The Range filter provides the capability to select a starting point other than the fundamental frequency and also specify a maximum order. These filters apply to all calculated values in the Numerics table.

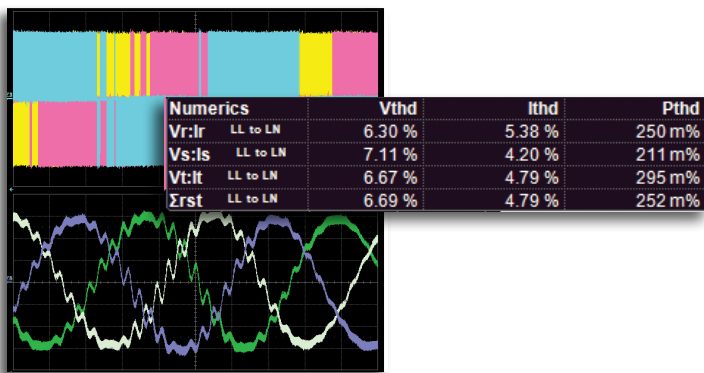
Harmonic Calculation Setup

The Harmonic calculations and analysis can be performed on each phase of the voltage, current, and power waveforms on either the AC Line Input or Drive Output. Spectral “Histogram” views are displayed, and values in user-selectable formats (Units, %, or dB) are displayed in a table for each harmonic order.



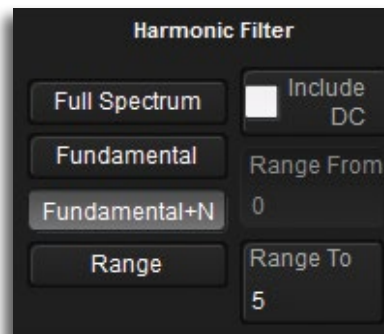
Total THD Per-cycle Measurements

The total THD for each cycle can be calculated and displayed in the Numerics and Statistics table. Use Zoom+Gate to isolate irregular harmonics behavior to a specific portion of the acquisition, and correlate these behaviors to other motor or drive behaviors.



Further Harmonic Filter Capabilities

The Harmonic Analysis extends the harmonic filter capabilities on the AC Input and Drive Output setups to include Fundamental + N and Range. These additional filters provide more control over the Numeric table calculation result.



Specifications

Setup Capability

Source Type	AC Input or Drive Output
Number of Harmonics	Set up to a maximum of 100 harmonics (Fixed Frequency mode) or 50 harmonics (Variable Frequency mode)
Units	A/V/W, dBuA/dBuV/dBuW, or percent
Harmonics Analysis Selections	Va, Vb, Vc, Ia, Ib, Ic, Pa, Pb, Pc (Select as many as are valid with the defined source)

Compatibility

Oscilloscopes	Teledyne LeCroy MDA800 Series
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MDA Harmonics Calculation Option

Ordering Information

Product Description

MDA Harmonics Calculation Option

Product Code

MDA800-Harmonics

Customer Service

Teledyne LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year. This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge



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Local sales offices are located throughout the world.
Visit our website to find the most convenient location.