PROBLEM: HIGH VOLTAGE DISTORTION
SOLUTION: GRIDHAWK® HD | XD

Non-linear loads such as motor drives introduce substantial harmonic current distortion (THID) and voltage distortion (THVD). In certain areas, such as the Permian Basin, the voltage distortion can reach dangerously high levels. The voltage waveform in Figure 1 came from actual measured field data. Figure 2 shows what a normal voltage waveform should look like at 0% THVD. In high voltage distortion environments, standard passive harmonic filters, AFEs (Active Front End), and 18 pulse drives fail. **GridHawk HD and GridHawk XD filters are rated to handle up to 15% and 25% THVD, respectively, without failure.** All GridHawk passive harmonic filters meet the **IEEE-519 requirements under full load conditions (5% THID).**
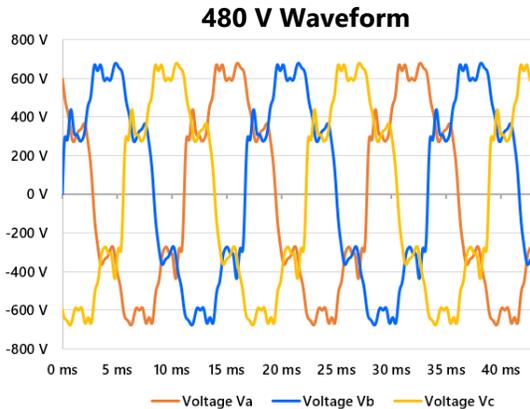

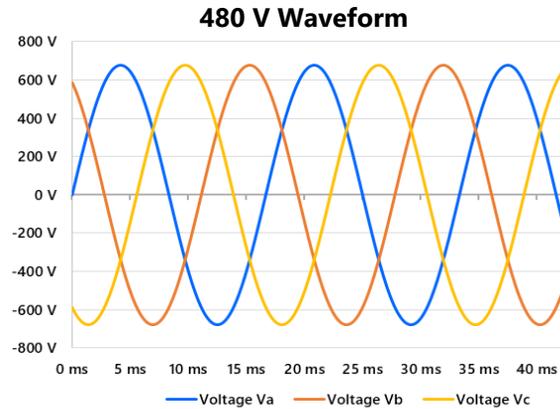**Figure 1.** Field Voltage at 22.5% THVD

Figure 2. Ideal Voltage at 0% THVD

Figures 3 and 4 compare voltage (blue) to current (orange) at 22.5% THVD. Installing a GridHawk XD eliminates the current spikes and patterns the current to roughly follow the voltage. In regions with a high amount of voltage distortion, a saturation of GridHawks will correct the voltage distortion for the entire area, producing a cleaner grid.
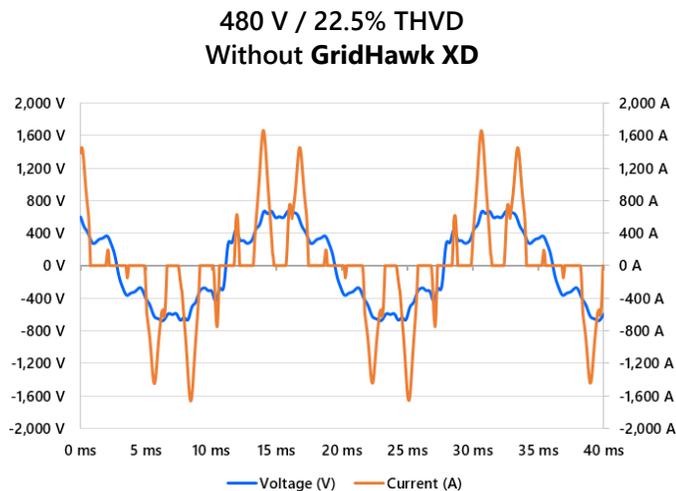
480 V / 22.5% THVD
Without GridHawk XD

Figure 3. Voltage (blue) and current (orange) at 22.5% THVD

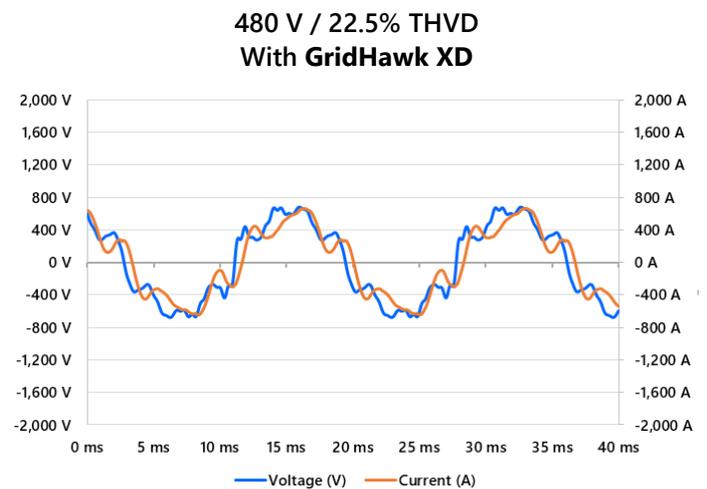**480 V / 22.5% THVD**
With GridHawk XD

Figure 4. Voltage (blue) and current (orange) at 22.5% THVD With **GridHawk XD**

Note: Information is for reference only. Data subject to change without notice.