3rd Harmonic Filters

- Single Phase
- 120 & 240 Volts AC
- 50 & 60 Hz Versions

3rd Harmonic Filters by MTE Corporation will substantially reduce harmonic currents caused by:
- Personal Computers
- Electronic Ballasts
- Lighting Dimmer Controls
- Uninterruptible Power Supplies
- 1-Phase Motor Drives/Inverters

Use 3rd Harmonic Filters to:
- Reduce Neutral Currents
- Reduce Transformer Loading
- Protect Electrical Systems
- Reduce Fire Hazard
- Improve Power Factor

HARMONIC REDUCTION
The 3rd Harmonic Filter reduces each of the individual harmonics from 3rd through 9th. Typical reduction of the 3rd harmonic is often as much as 80%-90%. Triplen harmonics, which add together in the neutral conductor, are minimized with this filter.

REDUCE SYSTEM RE-WIRING COSTS
The presence of triplen harmonics may require that you increase the neutral conductor size on your electrical system or to replace standard transformers with K-factor rated transformers. The use of our 3rd Harmonic Filter may allow you to save these costs because the triplen harmonic can be reduced significantly.

PACKAGING OPTIONS
The 3rd Harmonic Filter is available as an open chassis type Hard Wire version. Use the Hard Wire version for industrial panel wiring applications where the load is directly wired to the filter.

THE BENEFITS OF USING MTE’S 3RD HARMONIC FILTERS:
- Reduce Triplen Harmonics
- Reduce Neutral Current
- Minimize Dangerous Third Harmonics
Input Current: 4- Personal Computers with No Filter

Circuit | H | % | H | % | THD thru the 31st
--- | --- | --- | --- | --- | ---
Total 5.9 Amps rms | 3 | 59.2 | 19 | 2.1 | % THD 82.8
Fund 4.5 Amps rms | 5 | 46.7 | 21 | 2.4 | % THD 82.8
Har 3.7 Amps rms | 7 | 29.3 | 23 | 2.1 | % Even 2.5
| 9 | 14.5 | 25 | 0.8 | % Even 2.5
| 11 | 4.0 | 27 | 0.7 | % Triplen 61.2
| 13 | 4.6 | 29 | 0.6 | % Triplen 61.2
| 15 | 5.5 | 31 | 0.6 | % Triplen 61.2
| 17 | 4.2 | | | |

Input Current: 4- Personal Computers with 5PHF Filter

Circuit | H | % | H | % | THD thru the 31st
--- | --- | --- | --- | --- | ---
Total 4.35 Amps rms | 3 | 5.1 | 19 | 2.1 | % THD 26.4
Fund 4.28 Amps rms | 5 | 20.7 | 21 | 2.9 | % THD 26.4
Har 1.11 Amps rms | 7 | 9.7 | 23 | 2.6 | % Odd 82.8
| 9 | 6.7 | 25 | 1.3 | % Even 2.5
| 11 | 6.3 | 27 | 1.2 | % Triplen 9.4
| 13 | 3.7 | 29 | 2.0 | % Triplen 9.4
| 15 | 2.7 | 31 | 2.0 | % Triplen 9.4
| 17 | 3.4 | | | |

Input Voltage: 4- Personal Computers with 5PHF Filter

Circuit | H | % | H | % | THD thru the 31st
--- | --- | --- | --- | --- | ---
Total 111.5 Volts rms | 3 | 0.8 | 19 | 0.1 | % THD 1.3
Fund 111.5 Volts rms | 5 | 0.4 | 21 | 0.1 | % THD 1.3
Har 1.4 Volts rms | 7 | 0.1 | 23 | 0.1 | % Odd 1.2
| 9 | 0.7 | 25 | 0.2 | % Even 0.4
| 11 | 0.0 | 27 | 0.1 | % Triplen 1.1
| 13 | 0.3 | 29 | 0.2 | % Triplen 1.1
| 15 | 0.1 | 31 | 0.1 | % Triplen 1.1
| 17 | 0.1 | | | |

60 Hz

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<th>Amps</th>
<th>Volts</th>
<th>VA</th>
<th>Width (in./mm)</th>
<th>Depth (in./mm)</th>
<th>Height (in./mm)</th>
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<td>5</td>
<td>120</td>
<td>600</td>
<td>8.63/220</td>
<td>8.5/216</td>
<td>7/178</td>
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<tr>
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<td>10</td>
<td>120</td>
<td>1200</td>
<td>8.63/220</td>
<td>8.5/216</td>
<td>7/178</td>
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<tr>
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<td>15</td>
<td>120</td>
<td>1800</td>
<td>8.63/220</td>
<td>8.5/216</td>
<td>7/178</td>
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<td>1200</td>
<td>8.63/220</td>
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50 Hz

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3rd Harmonic Filters, by MTE Corporation, utilize passive blocking filter technology to attenuate the unwanted harmonics associated with single phase, non-linear loads (3rd, 5th, 7th, and 9th). Because we utilize an in-line filter concept, there is no concern about system resonance or filter overloading problems that may exist when using parallel or shunt type filters.