HarmonicGuard® Passive (HGP) - Intelligent Passive Filter

The HGP Filter with PQconnect is the first intelligent passive filter to offer industry leading harmonic mitigation and allow remote monitoring and control.

- Limits total harmonic current distortion down to 5% over the widest load range in the industry
- Generator compatibility with intelligence
- IEEE-519 2014 compliant
Electrical systems are continually compromised by the increase in non-linear loads causing harmonic distortion. Non-linear loads such as variable frequency drives (VFDs) are great for efficiency, but leave power quality polluted with harmonic distortion. The addition of a passive filter from TCI reduces the total harmonic current distortion (THID) to 5% and protects other equipment on the bus.

The HGP with PQconnect is the only drive-applied 5% passive harmonic filter on the market to provide intelligent control while still ensuring IEEE-519 compliance. The HGP offers generator compatibility with intelligence, which will eliminate any worry over leading power factor or excess VARs interfering with your generator.

The addition of PQconnect allows users to access filter performance data via serial communications and push to any SCADA system. This is critical for preventive maintenance measures and troubleshooting. Now you can be assured that your filter is accurately mitigating harmonics and power quality is no longer an issue.

1. Communication port and version indicator
2. Automated contactor control with no auxiliary contact needed
3. Real-time line/load current and voltage wave forms
4. Harmonic spectrum
5. Real-time voltage, current, THID, and THVD
6. Informational alerts

*The PQvision software is a free download application available from our website.
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Voltage / Frequency Rating</td>
<td>208, 240, 480, 600 VAC - 60 Hz 380 - 415 VAC - 50 Hz</td>
</tr>
<tr>
<td>Phase</td>
<td>3Ø</td>
</tr>
<tr>
<td>Motor drive input power rating range</td>
<td>208, 240 VAC: 5 - 100 Hp 380 - 415 VAC: 4 - 1000 KW 480, 600 VAC: 5 - 1250 Hp</td>
</tr>
<tr>
<td>THID</td>
<td>Less than 5% at full load</td>
</tr>
<tr>
<td>SCCR (Short Circuit Current Rating)</td>
<td>100 kA</td>
</tr>
<tr>
<td>Immunity from Voltage Distortion</td>
<td>Less than 5% THID at full load with THVD as high as 5%*</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Greater than 99%</td>
</tr>
<tr>
<td>Overload Capability</td>
<td>200% of current rating for 3 minutes</td>
</tr>
<tr>
<td>Communication Options</td>
<td>Modbus RTU over RS485</td>
</tr>
<tr>
<td>ENVIRONMENTAL CONDITIONS</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>Open: 50°C (122°F), Enclosed: 40°C (104°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>60°C (140°F)</td>
</tr>
<tr>
<td>Elevation</td>
<td>Up to 2,000 m without derating. Consult factory for higher elevations.</td>
</tr>
<tr>
<td>Humidity</td>
<td>95% non-condensing</td>
</tr>
<tr>
<td>Protection Category</td>
<td>Open Chassis, UL Type 1, UL Type 3R, and UL Type 12 enclosure</td>
</tr>
<tr>
<td>Cooling Method</td>
<td>Natural or Forced Air Convection</td>
</tr>
</tbody>
</table>

### PART NUMBERING

- **Series:**
  - A - 480 V
  - B - 240 V
  - C - 600 V
  - D - 208 V
  - L - 380 - 415 V
- **Voltage Rating:**
  - W - 60 Hz
  - X - 50 Hz
- **Frequency:**
  - 60 Hz
  - 50 Hz
- **Enclosure:**
  - 0 - Open
  - 1 - Type 1
  - 2 - Type 12
  - 3 - Type 3R
- **Option:**
  - C - Contactor
  - S - No Contactor
- **Connectivity:**
  - 0 - No connectivity
  - 1 - PQconnect w/Modbus RTU over RS485
- **Option:**
  - 0 - No option
  - F - Floor Stand (150 HP and below for Type 3R)
- **Option:**
  - 0 - No option
  - H - Heater (only in Type 3R)
  - V - Vibration Pads
  - P - Oil Field Duty

### % THID vs. % Load

![Graph showing % THID vs. % Load](image)

At standard test conditions of 1.5% source impedance and a VFD with 3% line reactance at full load, the HGP with PQconnect will provide 5% or lower THID at 50% of load.

*When configured for High Background Voltage Distortion. See IOM for guidelines for distortion greater than 5%.