



## 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

# Power Quality Assurance

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.

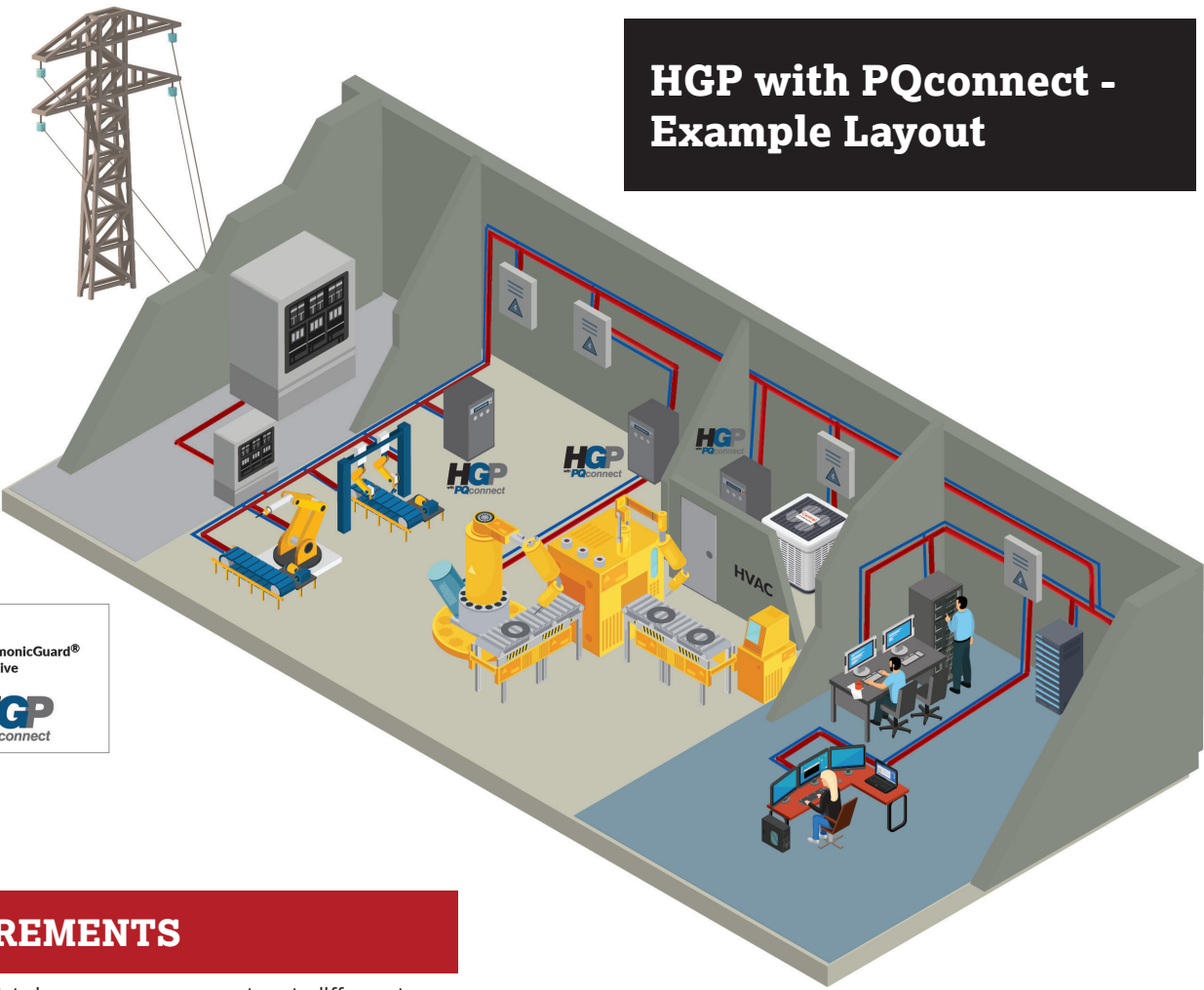
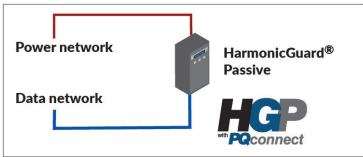
### HGP Filter

- Limits current harmonic distortion to less than 5%
- Fuse tuning circuit
- True 100 kA SCCR
- IEEE-519 2014 compliant
- Increases drive uptime
- Eliminates nuisance tripping and background voltage distortion



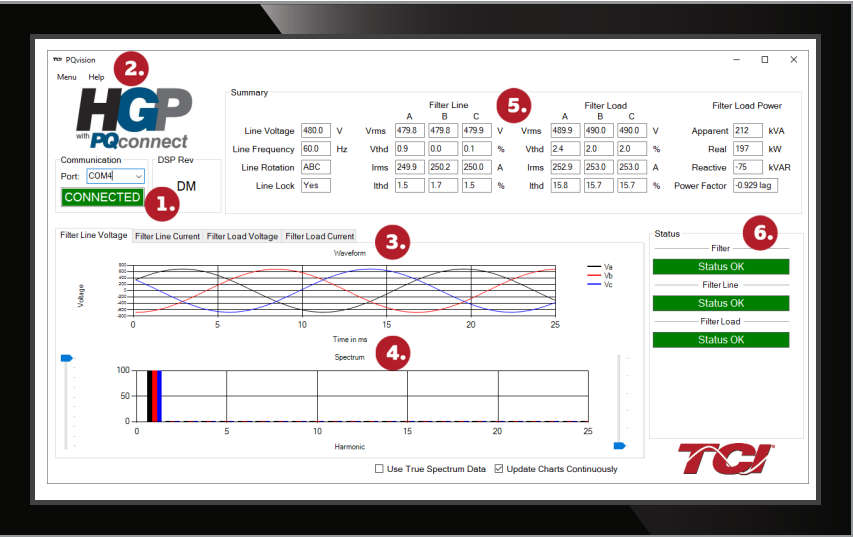
### PQconnect

- Generator compatibility with intelligence
- Remote access
- Filter status detection
- Automated contactor controls
- Open fuse indicator
- Troubleshooting/Analysis
- Easy set-up/install
- No Contactor wiring required



## DATA MEASUREMENTS

- HGP with PQconnect takes measurements at different points within the line to give you accurate readings.
- Filter status detection
  - THID (total harmonic current distortion)
  - THVD (total harmonic voltage distortion)
  - V (voltage)
  - I (current)
  - PF (power factor)



### PQvision\* Software Application

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.*

## GENERATOR COMPATIBILITY WITH INTELLIGENCE

The HGP with PQconnect is now the only passive harmonic filter offering generator compatibility with intelligence. The filter autonomously controls its tuning circuit contactor based on your system requirements to ensure worry-free operation for generator based systems.

## INTELLIGENT FILTER CONTROLS

Auxiliary connection to a VFD is not required with HGP with PQconnect. The filter's digital control will automatically operate the contactor so that harmonic distortion is no longer a problem.

## SERIAL COMMUNICATION

The HGP communication with Modbus RTU provides data monitoring and status of the filter to your SCADA system. The filter will indicate informational alerts to ensure your system stays running and resolves power quality issues.

## INDUSTRIAL STRENGTH

The HGP with PQconnect is built in the USA using high quality components and materials. This allows our passive filters to deliver best in class performance under the harshest conditions and in the most challenging applications.




## TECHNICAL SPECIFICATIONS

Voltage / Frequency Rating	208, 240, 480, 600 VAC- 60 Hz 380 - 415 VAC- 50 Hz
Phase	3Ø
Motor drive input power rating range	208, 240 VAC: 5 - 100 Hp 380 - 415 VAC: 4 - 1000 KW 480, 600 VAC: 5 - 1250 Hp
THID	Less than 5% at full load
SCCR (Short Circuit Current Rating)	100 kA
Immunity from Voltage Distortion	Less than 5% THID at full load with THVD as high as 5%*
Efficiency	Greater than 99%
Overload Capability	200% of current rating for 3 minutes
Communication Options	Modbus RTU over RS485 Bluetooth Ethernet/IP

### ENVIRONMENTAL CONDITIONS

Operating Temperature	Open: 50°C (122°F), Enclosed: 40°C (104°F)
Storage Temperature	60°C (140°F)
Elevation	Up to 2,000 m without derating. Consult factory for higher elevations.
Humidity	95% non-condensing
Protection Category	Open Chassis, UL Type 1, UL Type 3R, and UL Type 12 enclosure
Cooling Method	Natural or Forced Air Convection

### REFERENCE TECHNICAL STANDARDS

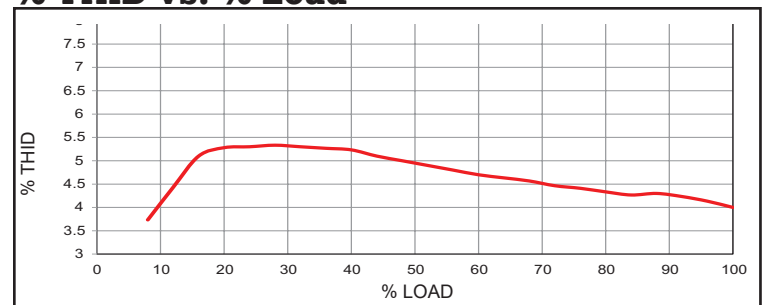
Agency Approvals	  
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\*When configured for High Background Voltage Distortion. See IOM for guidelines for distortion greater than 5%.

## PART NUMBERING

	HGP	0150	A	W	1	C	1	0	0	0
Series:										
Rating (HP -60Hz, KW -50Hz):										
Voltage Rating:										
	A - 480 V	B - 240 V								
	C - 600 V	D - 208 V								
	L - 380-415 V									
Frequency:										
	W - 60 Hz	X - 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 - Standard Voltage Distortion									
	1 - High Voltage Distortion									
Option:										
	0 - No option									
	H - Heater (only in Type 3R)									
	V - Vibration Pads									
	P - Oil Field Duty									

### % THID vs. % Load



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



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