

Harmonics & Power Quality



TCI's HarmonicShield™ passive harmonic filter offers the best-in-class performance that you expect from TCI at a price that you don't. TCI's new HarmonicShield™ is a 5% passive harmonic filter designed for a wide variety of standard duty indoor and outdoor environments, wherever a VFD is used.



General Application and Maintenance Free

The HarmonicShield™ (HSD) filter is built using the highest quality components and is suitable for general power quality applications and normal environmental conditions.

The HSD filter is designed with simplicity in mind. This convection cooled, maintenance-free filter requires no adjustments once installed.

Typical Applications

- Oil & Gas Equipment
- Metal Processing Equipment
- Water/Wastewater Pump Systems
- HVAC Compressors and Blowers
- Irrigation Pumps
- Extruders
- Pulp & Paper Mills



Advancing Power Quality

Harmonics

Industrial equipment generates more harmonics than ever while simultaneously sensitive electronic equipment is becoming increasingly susceptible. Couple this with the transformer heating and nuisance breaker trips caused by harmonics as well as the utilities' IEEE-519 mandate and managing harmonics is no longer optional.

And while the problem is well known, the solution can at times be confusing. Multi-pulse drives, harmonic mitigating transformers, active front end drives, standard VFD with harmonic mitigating equipment; which one is right for you?

HarmonicShield™

TCI's HarmonicShield™ can make the decision easy. The HarmonicShield™ offers industry leading 5% iTHD performance even at light loads and under the harshest of conditions. The optional contactor allows the tuning circuit to be disconnected at light loads to avoid leading power factor problems. Natural convection cooling means no moving parts. A lug kit option accommodates oversized cabling if needed. All this is backed up by TCI's 3 year warranty, which means you will have many years of hassle free operation.

Generator Compatible Option

TCI also offers a generator compatible option-HarmonicGuard®-Low Capacitance (HGL). The introduction of the HGL addresses concerns of excess capacitance when used with a generator. Contact TCI for more information.



HSD vs. Other Harmonics Solutions

Technical Specifications

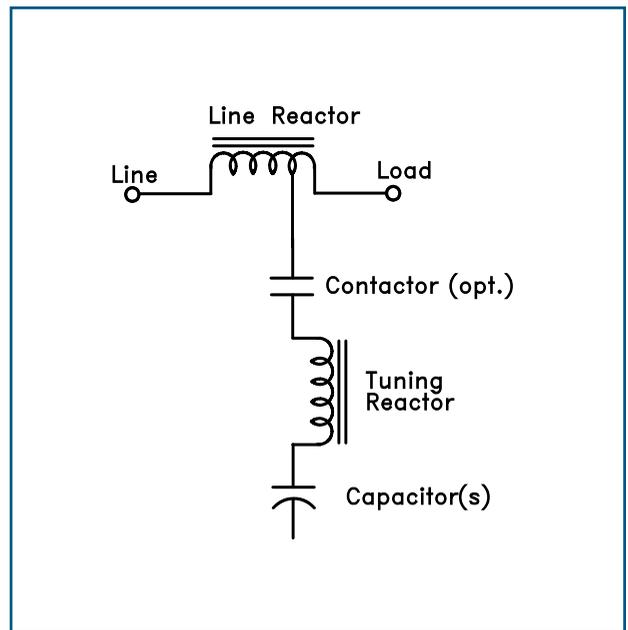
Voltage / Frequency Rating	480 & 600 VAC- 60 Hz
Phase	3Ø
Immunity from Voltage Distortion	Less than 5% iTHD at full load with vTHD as high as 5%
iTHD	Less than 5% at full load
Efficiency	Greater than 99%
Overload Capability	200% of current rating for 3 minutes
Environmental Conditions	
Operating Temperature	40°C (104°F)
Storage Temperature	60°C (140°F)
Elevation	Up to 1,000 m without derating. Consult factory for higher elevations.
Humidity	95% non-condensing
Protection Category	UL Type I and UL Type 3R
Cooling Method	Natural Convection
Reference Technical Standards	
Agency Approvals	UL & cUL Listed (up to 600 Hp)

NOTE: The HSD is classified as an Auxiliary Device, not an industrial control panel. Under UL and NFPA NEC guidelines an SCCR rating or marking is not required.

Part Numbering

	H	S	D	0	1	5	0	A	W	3	0	0	0	0
Series:	_____			_____			_____			_____				
Horse Power:	_____			_____			_____			_____				
Voltage Rating:	_____			_____			_____			_____				
A - 480 V														
C - 600 V														
Frequency:	_____			_____			_____			_____				
W - 60 Hz														
Enclosure:	_____			_____			_____			_____				
1 - UL Type 1														
3 - UL Type 3R														
Option:	_____			_____			_____			_____				
0 - Standard, no contactor														
1 - With contactor														
Option:	_____			_____			_____			_____				
0 - Standard, no lugs														
1 - Lugs														
Option:	_____			_____			_____			_____				
0 - Standard														
Option:	_____			_____			_____			_____				
0 - Standard														

One-Line Diagram



Application Matrix

	Open Panel	Type 1 Enclosure	Type 3R Enclosure	Type 12 Enclosure	Floor Mount	Wall Mount	Fuses	Fuse Monitor	True 100kA SCCR	Generator Compatible	High Background Voltage Distortion	Heater	Contactor	Lugs
HarmonicShield		X	X		X					X			X	X
HarmonicGuard Passive	X	X	X	X	X	X	X	X	X	X	X	X	X	X