

Power Factor Correction

PF Guard™

The Power of PF Guard

Avoid penalty fees and high utility bills with TCI's PF Guard™. By providing reactive power to your system the PF Guard will improve your facility's power factor to near unity. This reduces the amount of costly apparent power the utility must provide.

The PF Guard will reduce the demand on your electrical equipment, resulting in improved electrical system capacity and a more effective power supply.

What is Power Factor?

All inductive loads require two types of power to function properly:

- **Active power (kW)** performs real work in loads such as motors
- **Reactive power (kVAR)** is consumed by inductive loads such as AC motors and performs no productive work

Power Factor is the ratio between the active power and the total power consumed (apparent power or kVA) and is the standard measure of how effectively electrical power is being used by a system.

Why Improve Power Factor?

When the power factor is below 1.0 or unity, the electrical capacity of the system decreases, forcing the utility to supply more apparent power than necessary.

Utilities can pass on the resulting costs to the industrial users as power factor penalties and high utility bills.

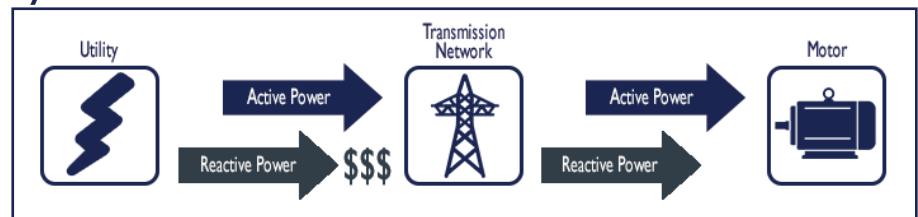
Issues caused by low power factor may include:

- Poor system performance
- High energy costs
- Electric surcharges
- Harmful environmental impacts

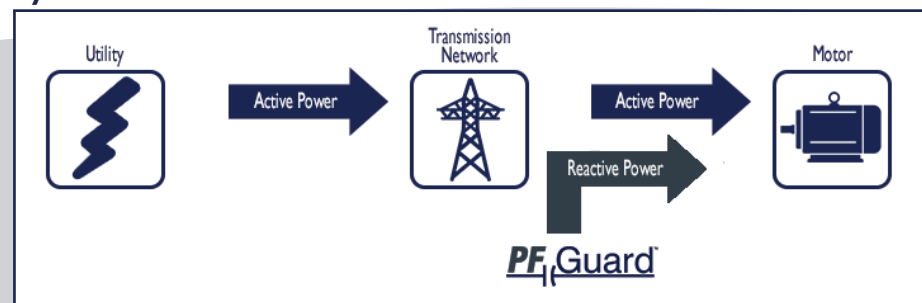
Powerful Features

The PF Guard offers an automatic switching design, providing an optimized solution for your application. A detuned, anti-resonance reactor is built into the unit for an extra layer of protection from harmonics and to prevent equipment failure, reduce costs and increase the life of the system.

System without PF Guard



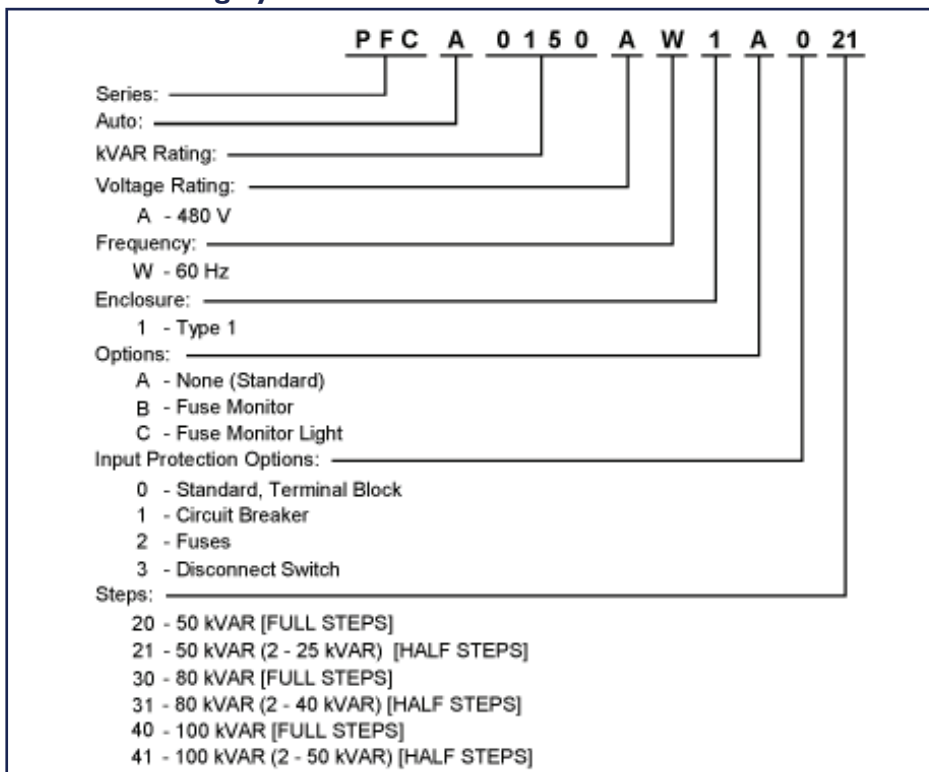
System with PF Guard



Power Factor Correction

Technical Characteristics	
Voltage Rating	480 VAC
Phase	3-Phase
Operating Frequency	60 Hz
Fuse Interrupt Rating	200kA
SCCR Rating	100kA: Terminal block, disconnect switch or fuse block option
	5kA: Circuit breaker only, 65kA: With customer supplied fusing
KVAR Rating(s)	150, 200, 250, 300, 400, 500, 600
Voltage Unbalance	1% maximum
Continuous Overvoltage	110%
Capacitor Tolerance	±5%
Expected Life	Over 130,000 operating hours
Maximum Harmonic Voltage	5%
Discharge Time	Less than 1 minute
Environmental Conditions	
Operating Temperature	Enclosed: -10°C (14°F) to 40°C (104°F)
Storage Temperature	-30°C (-22°F) to 60°C (140°F)
Relative Humidity	95% non-condensing
Operating Altitude	Up to 1,000m without derating
Cooling Method	Forced Air Convection
Reference Technical Standards	
Protection (Enclosure)	UL Type 1
Agency Approvals	UL508A

Part Numbering System



Typical Applications

- Large Industrial
- Heavy Manufacturing
- Wood Processing
- Steel / Paper Mills
- Tire / Rubber
- Refineries
- Mining

