**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

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**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.

**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.
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

**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 1,000 m without derating

**Cooling Method**: Forced Air Convection

Reference Technical Standards

**Protection (Enclosure)**: UL Type 1

**Agency Approvals**: UL 508A

Part Numbering System

<table>
<thead>
<tr>
<th>Series</th>
<th>Auto</th>
<th>kVAR Rating</th>
<th>Voltage Rating</th>
<th>Frequency</th>
<th>Enclosure</th>
<th>Options</th>
<th>Input Protection Options</th>
<th>Steps</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>C</td>
<td>0 15 0 A W 1 A 0 21 C</td>
<td>A - 480 V</td>
<td>W - 60 Hz</td>
<td>0 - Open</td>
<td>0 - None (Standard)</td>
<td>0 - Standard, Terminal Block</td>
<td>20 - 50 kVAR (FULL STEPS) 150 kVAR - 300 kVAR Rating Only</td>
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<td></td>
<td></td>
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<td>B - 240 V</td>
<td>L - 400 V</td>
<td>1 - Type 1</td>
<td>A - Fuse Monitor</td>
<td>1 - Circuit Breaker</td>
<td>21 - 50 kVAR (2 - 25 kVAR) (HALF STEPS) 150 kVAR - 300 kVAR Rating Only</td>
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<td>C - 600 V</td>
<td>X - 50 Hz</td>
<td>2 - Type 12</td>
<td>C - Fuse Monitor with Indicating Light</td>
<td>2 - Terminal Block with Fuses (Unavailable on units over 300 kVAR)</td>
<td>30 - 80 kVAR (FULL STEPS) 400 kVAR Rating Only</td>
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<td>3 - Type 3R</td>
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<td>3 - Disconnect Switch with Fuses</td>
<td>31 - 80 kVAR (2 - 40 kVAR) (HALF STEPS) 400 kVAR Rating Only</td>
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<td></td>
<td>40 - 100 kVAR (FULL STEPS) 500 kVAR and 600 kVAR Rating Only</td>
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<td>41 - 100 kVAR (2 - 50 kVAR) (HALF STEPS) 500 kVAR and 600 kVAR Rating Only</td>
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<td>A - None</td>
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<td>C - Controller</td>
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</tbody>
</table>

Typical Applications

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

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