OCC-PFC

— Convert AC to regulated DC with unity power factor

**OCC Features:**
- One-Cycle Control technology
- Power factor >0.99
- Current harmonics <3%
- Efficiency >97%
- Stable zero load operation
- Leading response speed (100s of microsec)
- Leading light weight < 29 kg (65 lbs)
- Leading power density ~1.2W/cm³ (20W/inch³)
- 400Hz or variable frequency by custom order
- Single unit 40kW, scalable to MW

**OCC Benefits:**
- Hardware enabled control — fast, stable, reliable
- High efficiency — energy saving
- Simple user interface — low maintenance & service
- Modular plug & play architecture — scalable
- Long life design — reduces logistics & installation cost
- Light weight minimum raw material usage — environmentally friendly
- Small size — space saving
- ETL listed — safe and high quality
- Department of Energy sponsored and award winning — highly competitive

**Breakthrough Technology:**
OCC-PFC leverages unique patented technology invented at Caltech & University of California and developed by the world leading power electronic experts under the partial sponsorship of U.S. Department of Energy. OCC-PFC is the first hardware-enabled 3-phase PFC rectifier with high reliability, ultrafast dynamics, and simple user interface, enabling AC/DC conversion with regulated DC bus and unity power factor.

**Problems:**
- Diode rectifier front-ends do not meet power quality regulation
- Equipment with diode rectifier sensitive to grid voltage fluctuation
- Facility transformer overloaded

**OCC Solution:**
- Correct the power factor to unity with low harmonics
- Stable DC bus during grid voltage fluctuation
- Reduce facility transformer loading

**Applications:**
- PFC front-end for motor drives
- PFC front-end for UPS
- PFC front-end for medical/industrial equipment
- Data center high voltage DC power supply
- Semiconductor foundry power supply with unity power factor
- Electronic AC load with dynamically adjustable inductive/capacitive impedance and energy regeneration capability
- Microturbine power generation rectifier
- Wind power generation rectifier
- Microhydro power generation rectifier

**OCC Benefits:**
- Microhydro power generation rectifier
- ETL listed — safe and high quality
- Department of Energy sponsored and award winning — highly competitive
## Electrical Specifications

<table>
<thead>
<tr>
<th></th>
<th>PFC3050A6480/8001IR</th>
<th>PFC3050A5380/6351IR</th>
<th>PFC3100A6208/3651IR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AC Phase/Wires</strong></td>
<td>3 phase/3 wires</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC Freq Range (Hz)</strong></td>
<td>57-63</td>
<td>47-53</td>
<td>57-63</td>
</tr>
<tr>
<td><strong>AC Voltage Range (V, rms) Line-to-Line</strong></td>
<td>400-552</td>
<td>320-440</td>
<td>175-240</td>
</tr>
<tr>
<td><strong>Max AC Current (A, rms)</strong></td>
<td>50</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td><strong>DC Bus Voltage (V)</strong></td>
<td>800</td>
<td>635</td>
<td>365</td>
</tr>
<tr>
<td><strong>Efficiency @ Full Power</strong></td>
<td>&gt; 97%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC Current THD @ Full Power</strong></td>
<td>&lt; 3%</td>
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<td></td>
</tr>
<tr>
<td><strong>Power Factor @ Full Power</strong></td>
<td>&gt; 0.99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Mechanical Specifications

- **Weight kg (lb)**: 29 (65)
- **Size (L x W x H) cm (inch)**: 58 x 45 x 13 (23 x 17.5 x 5.25)

## Environment Specifications

- **Operating Temp. (°C)**: 0 to 40
- **Operating Relative Humidity W/O Condensation**: 0-95%
- **Storage Temp (°C)**: -10 to 55
- **Audible Noise (dBA) @ 1m (3ft)**: < 80

## Safety

- **UL 508C**: ETL Listed Designed

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**OCC-PFC**

*OCC authorized dealer:*

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**OCC-Active PFC Rectifier**

Data center

Fast step load response and stable zero load operation

Steady state

Following variable load