Enabling Advanced Power Conversion

Invented at Caltech and UC Irvine, developed under DOE, DOD, CEC, and CIEE support, One-Cycle Control products deliver a new paradigm: active conversion of 3-phase power with hardware-based fast, precise, and robust universal control.

OCC-GTI

Breakthrough Technology:
OCC-GTI leverages unique patented technology invented at Caltech & University of California and developed by the world leading power electronic experts under partial sponsorship of U.S. Department of Energy. OCC-GTI is the first hardware-enabled 3-phase Grid-Tied Inverter that connects DC sources and batteries to AC grid with high reliability, ultrafast dynamics, and simple user interface, enabling precise AC current control. The OCC-GTI features industry leading dynamic speed and leading power density.

Applications:
- Wind, solar, microhydro, fuelcell power generation
- Battery energy storage charge and discharge
- Regenerative AC load with precise inductance, capacitance, and resistance control
- Regenerative DC load with precise resistance control

Options:
- Bidirectional power flow
- Reactive power control
- Four quadrant power operation
- MPPT
- Anti-islanding
- Low voltage ride through
- 400Hz or variable frequency by custom order

OCC Benefits:
- Hardware enabled control — ultrafast, precise, and stable
- High efficiency — energy saving
- Simple user interface — low maintenance & low service
- Modular plug & play architecture — scalable
- Long life design — low 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

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)
- Single unit 40kW, scalable to MW

OCC-GTI
— Connect DC source to AC grid with ultrafast and precise AC current control

OCC-Grid-Tied Inverter

One-Cycle Control, Inc. 12 Mauchly Building P. Irvine CA 92618  www.onecyclecontrol.com

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### Electrical Specifications

<table>
<thead>
<tr>
<th></th>
<th>GTI3050A6480/8002IR</th>
<th>GTI3050A5380/6352IR</th>
<th>GTI3100A6208/3652IR</th>
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<tbody>
<tr>
<td><strong>AC Phase/Wires</strong></td>
<td></td>
<td>3 phase/3 wires</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>
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<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>
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<tr>
<td><strong>Max AC Current (A, rms)</strong></td>
<td>50</td>
<td>100</td>
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<tr>
<td><strong>DC Bus Voltage (V)</strong></td>
<td>800</td>
<td>635</td>
<td>365</td>
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<tr>
<td><strong>Efficiency @ Full Power</strong></td>
<td>&gt; 97%</td>
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<tr>
<td><strong>AC Current THD @ Full Power</strong></td>
<td>&lt; 3%</td>
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<tr>
<td><strong>Power Factor @ Full Power</strong></td>
<td>&gt; 0.99</td>
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### Mechanical Specifications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Weight kg (lb)</strong></td>
<td>29 (65)</td>
</tr>
<tr>
<td><strong>Size (L x W x H) cm (inch)</strong></td>
<td>58 x 45 x 13 (23 x 17.5 x 5.25)</td>
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### Environment Specifications

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<table>
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<tr>
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<tbody>
<tr>
<td><strong>Operating Temp. °C</strong></td>
<td>0 to 40</td>
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<tr>
<td><strong>Operating Relative Humidity W/O Condensation</strong></td>
<td>0-95%</td>
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<tr>
<td><strong>Storage Temp °C</strong></td>
<td>-10 to 55</td>
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<tr>
<td><strong>Audible Noise (dBA) @ 1m (3ft)</strong></td>
<td>&lt; 80</td>
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### Safety

<table>
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<tr>
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<th>ETL Listed</th>
<th>Designed</th>
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**OCC-GTI**

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**OCC authorized dealer:**