**Precision Pulse Control**
The PCX-7500-LIV-EX is an air-cooled, high power current source designed to drive laser diodes, bars, and arrays. The output current can be set from 10 A to 450 A, compliance voltage dependant on the model of system. The pulse width is adjustable between 4 µs to 5,000 µs, with a frequency of 8 Hz to 10,000 Hz.

**Ease of Setup and Operation**
The PCX-7500-LIV-EX may be operated through its intuitive front panel controls. The color QVGA LCD provides immediate visual confirmation of all operating parameters, including pulsed current set points, internal trigger pulse width, internal trigger frequency, and error/fault messages.

**Complete System Integration**
For automated applications, complete control of the instrument is provided through RS-232, USB and Ethernet computer interfaces. Up to four system configurations may be stored in internal non-volatile memory, providing instant recall of frequently-used configurations.

**Low Inductance Output Cable**
The laser diode is connected to the PCX-7500-LIV-EX through a low impedance strip line cable, designed to preserve the fidelity of high-speed current pulses. The output connector is interlocked, so that the PCX-7500-LIV-EX is disabled when the connector is removed.

**Internal or External Triggering**
Conveniently located front panel BNC connectors allow the PCX-7500-LIV-EX to be externally triggered and synchronized for specialized interconnected equipment applications. The input impedance of the trigger is selectable to either 50 Ω or 10,000 Ω. The synchronization output pulse is synchronized to the leading edge of the output current pulse and is active with internal or external trigger.

**Ordering Information**
PCX-7500-LIV-xxxx See models on next page
6045-0070 Output Stripline Cable

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**PCX-7500-LIV-EX-5**
1 A, 3 V compliance, 8 Hz, 96 µs pulsewidth

**PCX-7500-LIV-EX-12**
60 A, 7.5 V compliance, 8 Hz, 96 µs pulsewidth

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**Pulse Amplitude**

Output Current Range: 0 A to 60 A

Setpoint Resolution: 0.025 A

Setpoint Accuracy: ± 0.1 % of full scale current

Current Overshoot: ≤ 100 μs for 0 A ≤ current setpoint ≤ 1 A ≤ 15 μs for 1 A < current setpoint ≤ 10 A ≤ 10 μs for current setpoint > 10 A

Current Rise/Fall Time:
- ≤ 100 µs for 0 A ≤ current setpoint ≤ 1 A ≤ 15 µs for 1 A < current setpoint ≤ 10 A ≤ 10 µs for current setpoint > 10 A

Polarity: Positive

Compliance Voltage: Depends on model

Maximum Output Power: Up to 1000 W, depends on model

**Internal Trigger**

Frequency Range: 8 Hz to 10000 Hz

Frequency Resolution: 8 Hz to 300 Hz: 100 Hz, 1 Hz from 300 Hz to 10000 Hz

Frequency Accuracy: ± 1 %

Tjit(cc) (cycle to cycle jitter): ≤ 0.025 μs

Pulse Width Range: 4 μs to 5,000 μs

Pulse Width Resolution:
- 32 μs from 8 Hz to 30 Hz
- 8.0 μs from 31 Hz to 122 Hz
- 2.0 μs from 123 Hz to 500 Hz
- 0.5 μs from 501 Hz to 10,000 Hz

Pulse Width Accuracy: ± 0.5 μs

**External Trigger**

Frequency Range: ≤ 10,000 Hz

Input Voltage Levels:
- 0 V, output off
- 5 V, output on

Pulse Width Resolution:
- 5 μs to 5,000 μs
- 1 μs (typical)

Delay (external to output): 50 Ω or 10,000 Ω

Connector: BNC

**Output Connector**

Output Connector: DB37 pin Female

Pin 1 to 16 = Out +
Pin 20 to 35 = Out –
Pin 18 and 19 cable present loopback
All other pins not connected

**Control Signals**

Sync Termination: 50 Ω

Sync Connector: BNC

Current Monitor: 0 V to 500 V

Current Monitor = 0.472 V (typical)

Current Monitor Connector: BNC

Voltage Monitor: 0 V to 0.920 V

Voltage Monitor Connector: 1 MΩ

Voltage Monitor Connector: BNC

**Computer Interfaces**

Supported Interfaces: RS232, Ethernet, USB

USB Driver Support:
- Windows 8, Windows 7,
- Windows XP, Linux, and Mac OS X

**Power Specifications**

Voltage requirements:
- 100 VAC to 120 VAC ± 10%
- 220 VAC to 240 VAC ± 10%

Line frequency: 50 Hz to 60 Hz

Power requirements: 1800 W

Connector Type: NEMA L5-20 to IEC 320-C19

**General**

Size (HxWxD): 15 cm x 44 cm x 54 cm

Weight: 20 kg

Operating Temperature: 15 °C to 35 °C

Cooling: Air cooled

**Available Models**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Compliance Voltage</th>
<th>Max Output Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCX-7500-LIV-EX-5</td>
<td>0 V to 5 V</td>
<td>100 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-12</td>
<td>5 V to 12 V</td>
<td>225 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-17</td>
<td>12 V to 17 V</td>
<td>400 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-24</td>
<td>17 V to 24 V</td>
<td>450 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-30</td>
<td>24 V to 30 V</td>
<td>600 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-38</td>
<td>30 V to 38 V</td>
<td>700 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-48</td>
<td>48 V to 54 V</td>
<td>700 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-54</td>
<td>54 V to 62 V</td>
<td>700 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-62</td>
<td>62 V to 66 V</td>
<td>700 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-66</td>
<td>66 V to 73 V</td>
<td>700 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-73</td>
<td>73 V to 78 V</td>
<td>750 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-78</td>
<td>78 V to 86 V</td>
<td>800 W</td>
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<tr>
<td>PCX-7500-LIV-EX-86</td>
<td>86 V to 94 V</td>
<td>900 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-94</td>
<td>94 V to 102 V</td>
<td>950 W</td>
</tr>
<tr>
<td>PCX-7500-LIV-EX-102</td>
<td>102 V to 110 V</td>
<td>1000 W</td>
</tr>
</tbody>
</table>

*1 Operation of an instrument outside of the listed compliance voltage and maximum power limits can cause permanent damage to the instrument and/or load. Please see SOA graphs in manual for more information.

**Notes**

Warranty—One year parts and labor on defects in materials and workmanship.

The PCX-7500-LIV-EX current source meets or exceeds these specifications.

All specifications are measured with a low inductance strip line interconnect cable connected to a HPL-2400 (low inductance high power resistive load).

Specifications subject to change without notice.

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