**CPL490**

**Elite Series**

- **Highest resolution**
- **Widest bandwidth (50)**
- **Five-element range indicator**
- **Zero adjust**
- **Front-panel BNC analog output**
- **Differential output to National Instruments 68-pin connector**
- **Uses 2nd Generation Probes**

### Specifications

- **Resolution**¹: 0.0004% @ 1 kHz
  0.0007% @ 15 kHz
  0.002% @ 50 kHz
- **Selectable Bandwidth**: 1, 10, 15, 50 kHz
- **Linearity**²: <0.2% F.S. typical
- **Max Drift**: 0.02-0.04% F.S./°C
- **Operating Temp**: 15-40°C
- **Front-Panel BNC**: ±10 V, 0 Ω, 10mA max
- **Rear-Panel National Inst.**: ±10 V, 0 Ω, Differential
- **Multiple Sensors**: Up to 3

¹ Dependent on probe, range, and bandwidth. See next page for details.
² Dependent on probe and range. See next page for details.

Listed specifications assume a two meter probe cable; Flat measurement area diameter at least 1.3 times larger than the Sensing Area diameter with no customizations.

The CPL490 uses 2nd Generation Probes.

### Export License

Because of high resolutions, export of the Elite Series to some countries require an export license.
2nd Generation Probes

The CPL490 uses 2nd Generation Capacitive Probes which include electronics in the probe housing. The probes are mounted by the 8mm diameter probe body extending from the larger housing. Two models are available differing only in the sensing area diameter and associated measurement ranges.

<table>
<thead>
<tr>
<th>Sensing Area Diameter mm (Probe Model)</th>
<th>Range Type</th>
<th>Range µm</th>
<th>Near Gap µm</th>
<th>1 kHz nm/µin</th>
<th>10 kHz nm/µin</th>
<th>15 kHz nm/µin</th>
<th>50 kHz nm/µin</th>
<th>Probe Maximum Drift % FS/°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>Fine</td>
<td>10, 4</td>
<td>20, 0.8</td>
<td>0.05, 0.002</td>
<td>0.07, 0.003</td>
<td>0.09, 0.004</td>
<td>0.26, 0.010</td>
<td>0.04</td>
</tr>
<tr>
<td>Standard</td>
<td></td>
<td>50, 2.0</td>
<td>25, 1.0</td>
<td>0.07, 0.007</td>
<td>0.11, 0.011</td>
<td>0.14, 0.004</td>
<td>1.0, 0.014</td>
<td>0.02</td>
</tr>
<tr>
<td>Extended</td>
<td></td>
<td>100, 4.0</td>
<td>50, 2.0</td>
<td>0.15, 0.015</td>
<td>0.80, 0.031</td>
<td>1.0, 0.039</td>
<td>3.3, 0.14</td>
<td>0.03</td>
</tr>
<tr>
<td>1.2</td>
<td>Fine</td>
<td>50, 2.0</td>
<td>25, 1.0</td>
<td>0.15, 0.006</td>
<td>0.20, 0.008</td>
<td>0.22, 0.009</td>
<td>0.63, 0.025</td>
<td>0.02</td>
</tr>
<tr>
<td>Standard</td>
<td></td>
<td>100, 4.0</td>
<td>50, 2.0</td>
<td>0.33, 0.013</td>
<td>0.40, 0.016</td>
<td>0.52, 0.021</td>
<td>1.7, 0.065</td>
<td>0.02</td>
</tr>
<tr>
<td>Extended</td>
<td></td>
<td>200, 8.0</td>
<td>100, 4.0</td>
<td>0.68, 0.027</td>
<td>1.0, 0.040</td>
<td>1.3, 0.050</td>
<td>3.8, 0.15</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Range is determined by the sensing area diameter. The larger the diameter, the larger the range. Flat target surface must be 1.3 times larger than the sensing area diameter.