

CAPACITIVE DRIVER

CPL490 Elite Series

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

Specifications

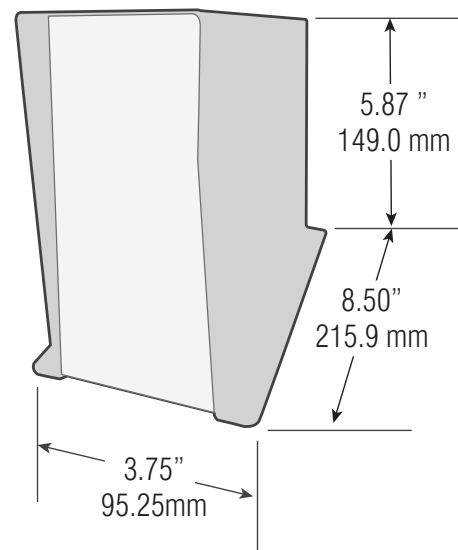
| | |
|---------------------------|---|
| Resolution ¹ : | 0.0004% @ 1 kHz |
| | 0.0007% @ 15 kHz |
| | 0.002% @ 50 kHz |
| Selectable Bandwidth: | 1, 10, 15, 50 kHz |
| Linearity ² : | <0.2% F.S. typical |
| Max Drift: | 0.02-0.04% F.S./°C |
| Operating Temp: | 15°C - 40°C |
| Front-Panel BNC: | ±10V, 0Ω 10mA max |
| Rear-Panel National Inst: | ±10V, 0Ω Differential |
| Multiple Channels: | Up to 3 per enclosure (Contact Lion Precision for more than 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 with no customizations.

The CPL490 uses 2nd Generation probes.



Export License

May require an export license to some countries due to the high resolution

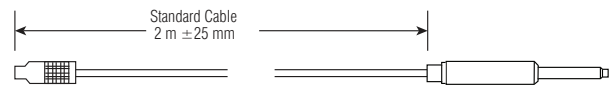
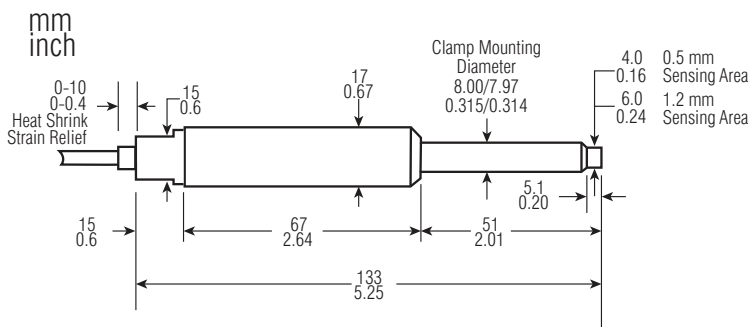
CPL490

Probes and Ranges

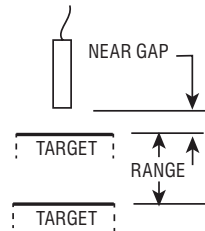
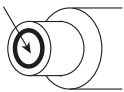
Second Generation Probes

- » 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.

2G-C8-0.5:0.5 mm sensing area
 2G-C8-1.2:1.2 mm sensing area



Sensing Area



CPL490 Probe Measurement Ranges and Resolutions

| Sensing Area Diameter mm (Probe Model) | Range Type | Range | Near Gap | 1 kHz | 10 kHz | 15 kHz | 50 kHz | Probe Max. Drift % FS/°C |
|--|------------|------------|------------|---------------|---------------|---------------|---------------|--------------------------|
| | | µm mils | µm mils | nm µin | nm µin | nm µin | nm µin | |
| 0.5 (2G-C8-0.5) | Fine | 10 0.4 | 20 0.8 | 0.05 0.002 | 0.07 0.003 | 0.09 0.004 | 0.26 0.010 | 0.04 |
| | Standard | 50 2.0 | 25 1.0 | 0.17 0.007 | 0.27 0.011 | 0.35 0.014 | 1.0 0.040 | 0.02 |
| | Extended | 100 4.0 | 50 2.0 | 0.38 0.015 | 0.80 0.031 | 1.0 0.039 | 3.3 0.14 | 0.03 |
| 1.2 (2g-C8-1.2) | Fine | 50 2.0 | 25 1.0 | 0.15 0.006 | 0.20 0.008 | 0.22 0.009 | 0.63 0.25 | 0.02 |
| | Standard | 100 4.0 | 50 2.0 | 0.33 0.013 | 0.40 0.016 | 0.52 0.021 | 1.7 0.065 | 0.02 |
| | Extended | 200 8.0 | 100 4.0 | 0.68 0.027 | 1.0 0.040 | 1.3 0.050 | 3.8 0.15 | 0.02 |

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.