

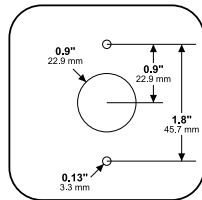
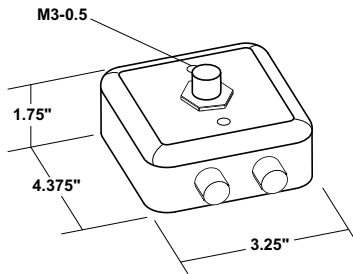
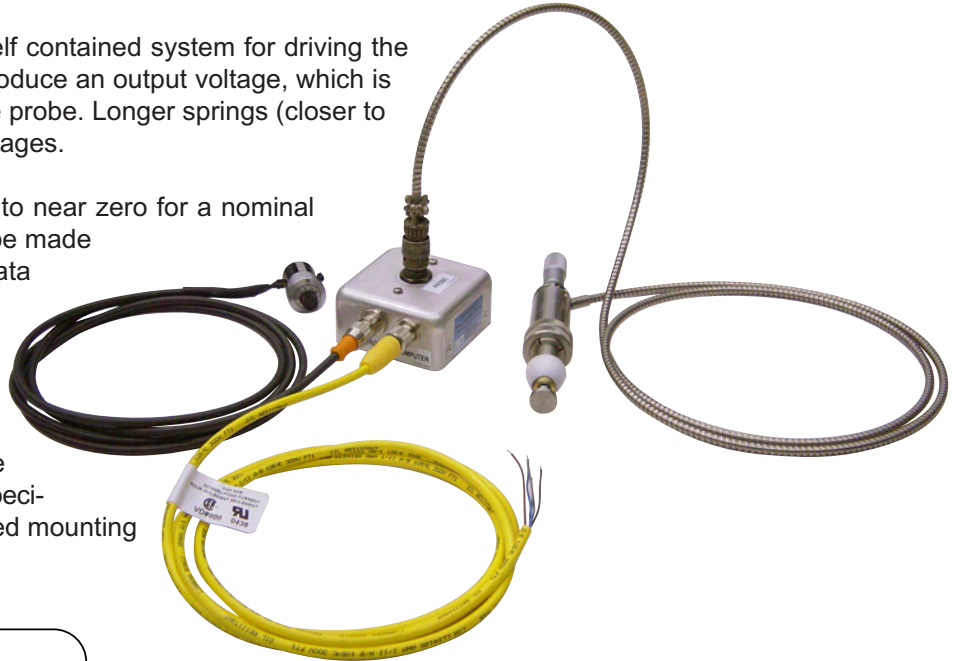
Capacitance Free Length Gage

Capacitance Free Length Driver

The Capacitance Free Length Driver is a self contained system for driving the non-contact probe. The driver electronics produce an output voltage, which is proportional to the length of the spring at the probe. Longer springs (closer to the probe) produce more positive output voltages.

The output voltage offset must be adjusted to near zero for a nominal length spring. Probe Zero adjustments can be made by a DAC output voltage from the users data acquisition system or by a ten-turn potentiometer that can be purchased with the system.

The probe driver is mounted with two screws (M3-0.5). Do not loosen or remove the probe connector nut. See Figure 3 for panel cutout specifications. The maximum depth of the threaded mounting holes is 9.5mm (3/8 inch).



Mounting Configuration

Capacitance Free Length Gage - To Order	
Part Number	Description
Gage	
050-0000-0128-00	Capacitance Free Length Gage (PC interface not included)
PC Interface	
014-3000-0007-00	PC Analog Interface Card, PCI Bus
025-0000-0571-00	Capacitance Free Length Gage - Sample Code
Driver	
025-1000-0479-00	Capacitance Free Length Driver
025-1000-0429-00	Computer Cable Assembly
025-1000-0430-00	Zero POT Cable Assembly
Probes	
025-0000-0658-02	Heated Probe - PX595G (English)
025-0000-0658-03	Heated Probe - PX595G (Metric)
Probe Tips	
025-0000-0655-00	Extended Probe Tip - Kit (1 Base & 5 Tips)
018-0000-2535-00	Extended Probe Tip - 1/8 X 1 In, Threaded (3 x 25 mm)
018-0000-2531-00	Extended Probe Tip - 1/4 X 1 In, Threaded (6 x 25 mm)
018-0000-2532-00	Extended Probe Tip - 3/8 X 1 In, Threaded (9 x 25 mm)
018-0000-2533-00	Extended Probe Tip - 5/8 X 1 In, Threaded (16 x 25 mm)
018-0000-2534-00	Extended Probe Tip - 1 X 1 In, Threaded (25 x 25 mm)
025-0000-0654-00	Extended Probe Tip - Base Assembly, Threaded
025-0000-0597-03	Guarded Tip - 5/8 In. Dia. (16 mm)
025-0000-0597-00	Guarded Tip - 1.0 In. Dia. (25 mm)
025-0000-0597-01	Guarded Tip - 1.5 In. Dia. (38 mm)
025-0000-0597-02	Guarded Tip - 2.0 In. Dia. (52 mm)
Probe Holders	
025-0000-0640-00	PB309B - Fixed Probe Mount

Potentiometer
Optional ten-turn potentiometer for probe zeroing.

J1-3 is automatically disabled when potentiometer is connected to J2.

Probe
The probe voltage must be adjusted to zero when measuring a nominal length spring. This zero adjustment can be accomplished two ways:

- A potentiometer connected to J2, or
- An adjustable DC voltage to J1-3. This voltage must be VERY stable and noise free for reliable operation.

Data Acquisition System

- A-In1 +
- A-In1 -
- A-In2 +
- A-In2 -
- A-Out

Capacitance Free Length Gage - Connections			
Wire Colors	Pin	Signal	Notes
White	1	Power In	+5 ±0.5 VDC, 0.7A max.
Brown	2	Probe Voltage Out	±10 VDC, proportional to spring length, more positive = longer
Black	3	Zero Voltage In (Negative Voltage)	0 to -10 VDC input voltage used to zero output voltage offset. 0.1 V input change yields approximately 5V output change.
Blue	4	Test Voltage Out	<0.5 VDC normal operation, >0.5 VDC when probe tip is grounded by contact with spring or other object.
Gray	5	Ground (Common)	