

# CAPACITIVE DRIVER

## CPL590 Capacitive Driver

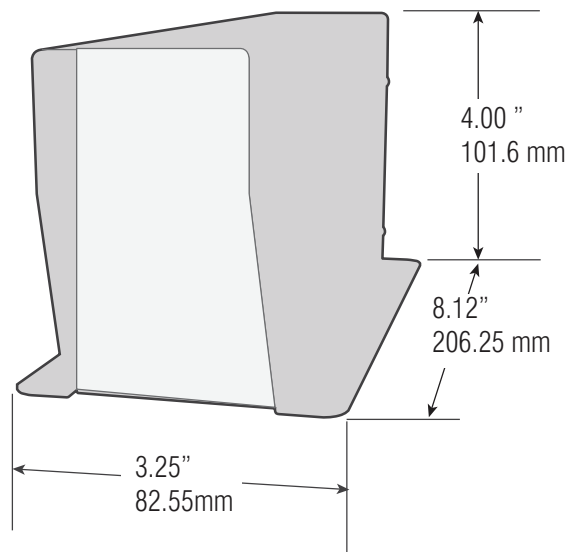
- » Digital Outputs
- » USB, SPI and EtherCAT
- » Small 2U Size
- » Up to 4 Selectable Ranges on 1 Probe
- » Best Linearity
- » Higher Stability
- » Digital Adjustment

### Specifications

Resolution <sup>1</sup> :	0.0007% @ 100 Hz
	0.004% @ 15 kHz
Selectable Bandwidth:	100Hz, 1, 10, 15 kHz
Linearity:	<0.1% F.S. typical
Probe Drift:	0.04% F.S./°C
Operating Temp:	4°C - 50°C
Output:	±10V, 0Ω 10mA max
Rear-Panel:	SPI, EtherCAT

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

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



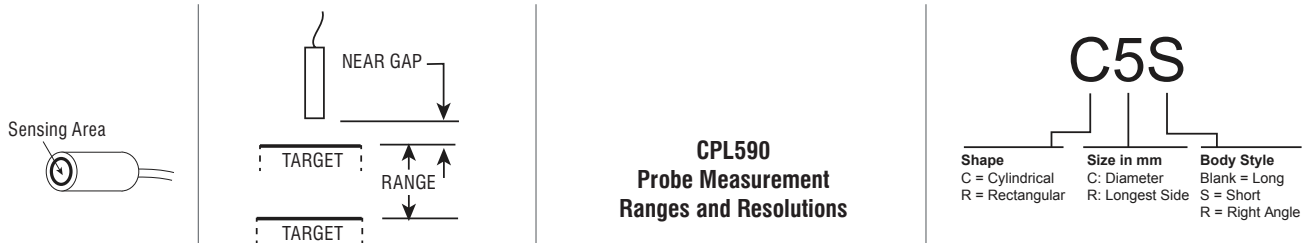
### Export License

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

# CPL590

## Probes and Ranges

### Selecting the Right Technology



Sensing Area Diameter mm	Measurement Range			Resolution <sup>1</sup> @ Bandwidth				Available Body Sizes	
	Range Type	Range $\mu\text{m}$ mils	Near Gap $\mu\text{m}$ mils	1 kHz nm $\mu\text{in}$	10 kHz nm $\mu\text{in}$	15 kHz nm $\mu\text{in}$	Linearity % F.S.	Models	Body Sizes
0.5	Fine	10 0.4	20 0.8	0.30 0.012	0.80 0.031	1.0 0.039	0.25	C3S C3R C5S C5R C5	
	Standard	50 2.0	50 2.0	1.8 0.071	5.0 0.20	7.0 0.28	0.08		
	Extended	80 3.0	60 2.4	3.5 0.14	9.5 0.37	12 0.47	0.08		
0.8	Fine	25 1.0	75 3.0	0.70 0.028	2.0 0.079	2.6 0.10	0.10	C3S C3R C5S C5R C5	
	Standard	100 4.0	100 4.0	2.3 0.090	6.5 0.26	9.0 0.35	0.05		
2.0	Ultrafine	10 0.4	20 0.8	0.12 0.005	0.15 0.006	0.17 0.007	0.20	C5S C5R C5 C8S C8R C8	
	Fine	50 2.0	75 3.0	0.50 0.020	0.85 0.033	1.2 0.047	0.08		
	Standard	250 10	125 5.0	1.8 0.071	3.9 0.15	5.2 0.21	0.05		
	Extended	500 20	125 5.0	3.9 0.15	8.9 0.35	11 0.41	0.05		
3.2	Fine	50 2.0	125 5.0	0.55 0.022	0.95 0.037	1.3 0.051	0.08	C8S C8R C8	
	Standard	500 20	250 10	3.5 0.14	8.5 0.34	10 0.39	0.05		
	Extended	1250 50	250 10	8.5 0.34	21 0.83	28 1.1	0.05		
5.6	Fine	50 2.0	225 9.0	0.70 0.028	1.2 0.047	1.8 0.069	0.08	C9.5S C9.5R C9.5 R20	
	Standard	500 20	500 20	3.9 0.15	7.5 0.30	9.8 0.39	0.05		
	Extended	2000 80	250 10	15 0.57	26 1.0	31 1.2	0.05		

<sup>1</sup>Resolution values are RMS. Peak-to-peak values are typically 8-10 times greater than the RMS values.  
In high EMI conditions (10 V/m) output DC level may shift and noise may rise to 0.2 VRMS (1.3% resolution).