

FULL-BRIDGE THIN-BEAM LOAD CELLS

FOR LOADS 0-113 g TO 0-18 kg

LCL Series

All Models
\$69



- ✓ Measures Force or Displacement
- ✓ Thermally Matched, Fully Active, Full-Bridge Gage for Optimal Temperature Tracking

When frequent small-load measurements are required, OMEGA® LCL Series thin-beam load cells are the answer. The LCL Series is designed to measure many different parameters found in medical instrumentation, home appliances, process control, robotics, automotive, and other high-volume applications. A specially developed integrated strain gage includes all balancing, compensating, and conductive elements and is laminated to the beam to provide excellent stability and reliability.

SPECIFICATIONS

Excitation: 5 Vdc, 12 V max

Rated Output: 2 mV/V $\pm 20\%$

(to minimize $\pm 20\%$ tolerance, end user must calibrate with a known weight)

Zero Balance: 0.3 mV/V

Combined Error: 0.25% FS

Operating Temperature: -54 to 93°C (-65 to 200°F)

Compensated Temperature: -7 to 49°C (20 to 120°F)

Temperature Effects: Zero balance 0.02% FS/°F; output 0.02%/°F

Resistance (Input and Output): 1200 $\pm 300 \Omega$

Insulation Resistance: 1000 @ 50 Vdc

Seal: Urethane coated

Safe Overload: 150% FS

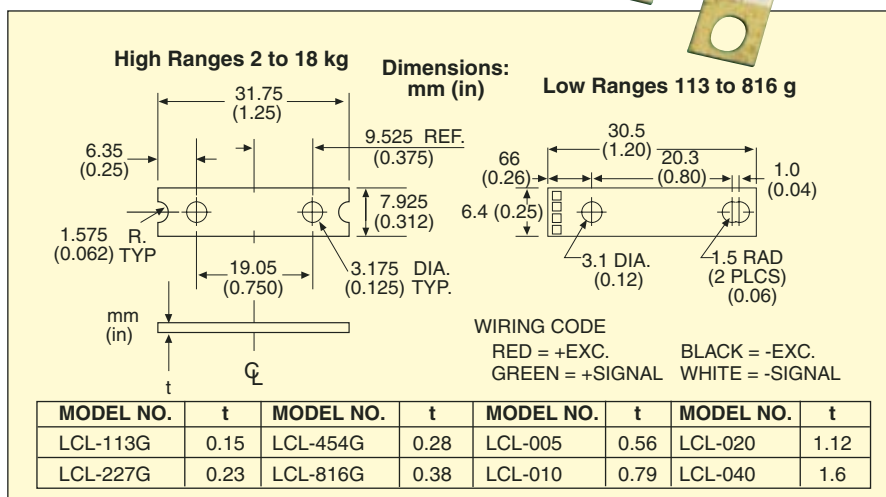
Full Scale Deflection: 0.25 to 1.27 mm (0.010 to 0.050")

Lead Wire: 9" shielded PVC 4-conductor 30 AWG

Material: 301 SS (beryllium copper ¼ and ½ lb units)

LCL-010, \$69, shown larger than actual size.

LCL-454G, \$69, shown larger than actual size.



MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

CAPACITY		MODEL NO.	PRICE	COMPATIBLE METERS*
113 g	0.25 lb	LCL-113G	\$69	DP2000S5, DP25B-S, DPiS
227 g	0.5 lb	LCL-227G	69	DP2000S5, DP25B-S, DPiS
454 g	1 lb	LCL-454G	69	DP2000S5, DP25B-S, DPiS
816 g	2 lb	LCL-816G	69	DP2000S5, DP25B-S, DPiS
2.27 kg	5 lb	LCL-005	69	DP2000S5, DP25B-S, DPiS
4.54 kg	10 lb	LCL-010	69	DP2000S5, DP25B-S, DPiS
9.07 kg	20 lb	LCL-020	69	DP2000S5, DP25B-S, DPiS
18.14 kg	40 lb	LCL-040	69	DP2000S5, DP25B-S, DPiS

* See section D for compatible meters.

Ordering Examples: LCL-113G, beam, LCL-CL1, mounting bracket, \$69 + 15 = \$84.
LCL-020, beam, LCM-CL1, mounting bracket, \$69 + 30 = \$99.

MOUNTING HARDWARE

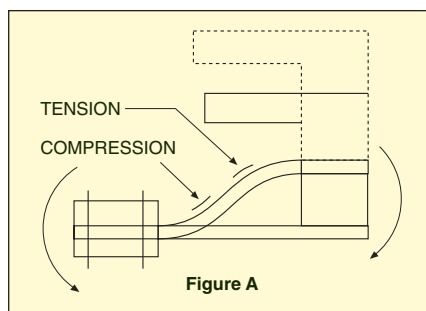
MODEL NO.	PRICE	MOUNTING
LCL-CL1	\$15	For LCL-113G through LCL-816G
LCM-CL1	30	For LCL-005 through LCL-040

ACCESSORY

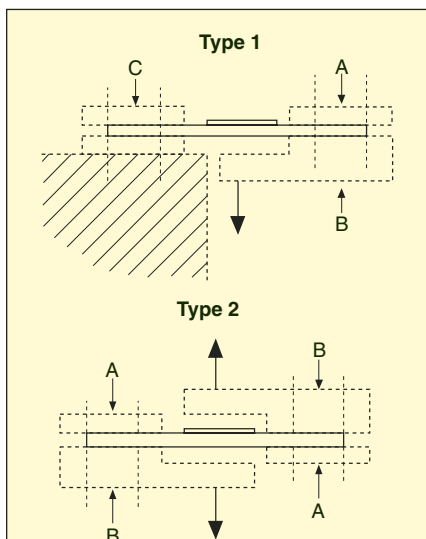
MODEL NO.	PRICE	DESCRIPTION
OP-17	\$15	Reference Book: Measure for Measure

INSTALLATION CONSIDERATIONS FOR THIN-BEAM LOAD CELLS

Careful design considerations must be taken into account when mounting OMEGA's LCL Series thin-beam load cells. The sensor's performance depends on the mechanical interface. All thin-beam load cells require mounting clamps to create a "double bend" during loading, as shown in Figure A. This illustration is exaggerated to show the clamp's effectiveness in producing opposing moments that create the double bend. An electrical output is generated as the double bend causes tension and compression on the sensor strain gage.



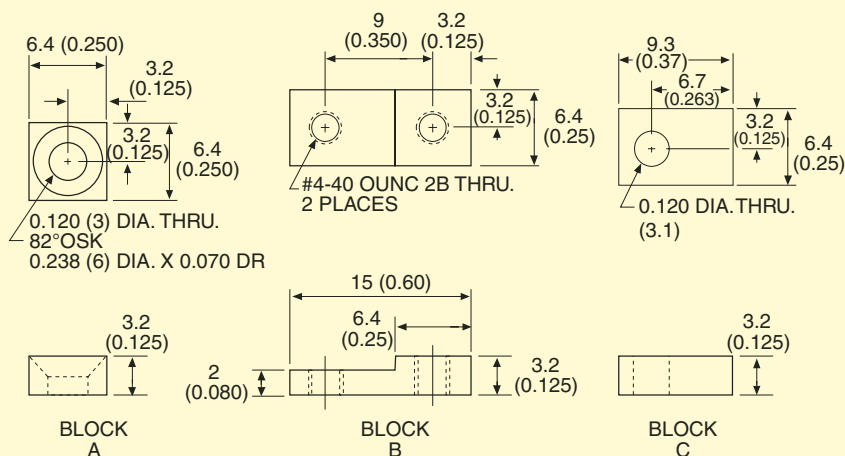
Two typical mounting arrangements are shown below. For high-accuracy applications, reinforcement plates should be slightly harder than the beam material, and the interfacing corners should be sharp. Because of low loads and sensor construction associated with the LCL113G through LCL-816G, in-line loading (Type 2) is not recommended.



LCL-CL1 Mounting Kit

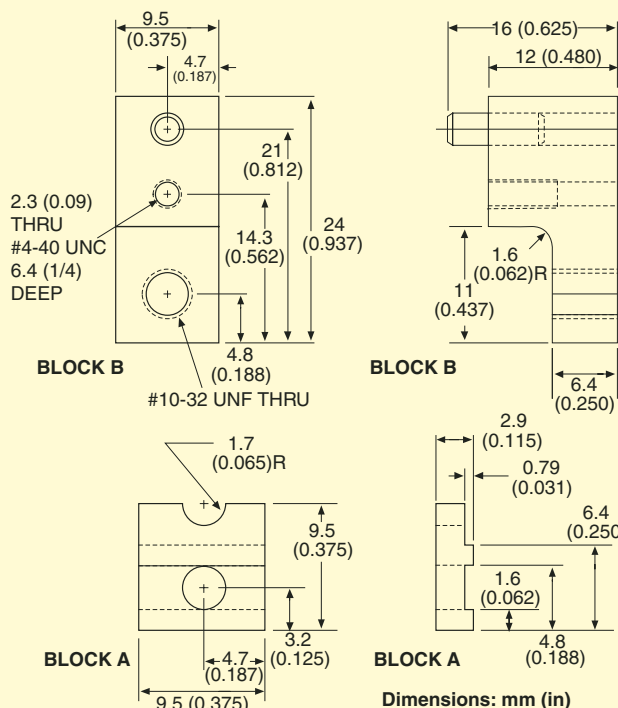
Mounting kit LCL-CL1 for thin-beam sensors LCL-113G through LCL-816G, Type 1 mounting only. Kit includes mounting blocks A, B, and C.

Dimensions: mm (in)



LCM-CL1 Mounting Kit

Mounting kit LCM-CL1 for thin-beam sensors LCL-005 through LCL-040. Kit includes 4 mounting blocks, 2 each of blocks A and B. Type 2 mounting only.





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