

DYNAMIC LOAD CELLS FOR HIGH-FREQUENCY TENSION/ COMPRESSION FORCE MEASUREMENTS



DLC101 Series

Starts at
\$420

DLC101, \$420,
shown larger
than actual size.



- ✓ Ideal for Measuring Impact or Pulsating Forces
- ✓ Frequency Range Up to 25 kHz
- ✓ Force Ranges Up to 5000 lb
- ✓ Calibration Certificate Supplied
- ✓ Stainless Steel Impact Cap and Mounting Stud Provided

OMEGA's DLC101 dynamic load cell is ideal for measuring force transients or dynamic force pulsations in impact or vibration applications. This load cell contains a thin piezoelectric crystal that generates an analog voltage signal in response to an applied dynamic force. The DLC101 has 2 threaded ends, enabling installation of threaded members such as mounting studs, impact caps, and machine elements. Its welded construction encloses and protects the crystals from the environment.

SPECIFICATIONS

Excitation: 2 mA nominal @ 18 to 30 Vdc, constant current

Rated Output: 5 V nominal FS

Amplitude Linearity: ±1% FS (BSFL/0)

Resonant Frequency (@ No Load): 75 kHz

High Frequency Range: 25 kHz (approx. 1/3 of resonant frequency, no load)

Low Frequency Range (-3 dB): 0.08 Hz

Discharge Time Constant: 50 s (DLC101-10), 100 s (DLC101-50), 500 s (DLC 101-100), 2000 s (DLC101-500, -1K, -5K)

Maximum Compression: 200 lb (DLC101-10), 1000 lb (DLC101-50), 2000 lb (DLC101-100), 10,000 lb (DLC101-500), 15,000 lb (DLC101-1K), 15,000 lb (DLC101-5K)

Maximum Tension: 200 lb (DLC101-10), 500 lb (all ranges except 10 lb)

Stiffness: 11.4 lb/μin

Overload Recovery: 10 μs for 2X range

Maximum Shock/Vibration:

10,000±5000 g (no load)

Temperature Range: -75 to 120°C (-100 to 250°F)

Temperature Sensitivity Effect: 0.03% FSPF

Output Impedance: 100 Ω

Bias Voltage: 10 V nominal

Noise Floor (Wideband, RMS):

0.00014 lb (DLC101-10)

0.0007 lb (DLC101-50)

0.0014 lb (DLC101-100)

0.007 lb (DLC101-500)

0.014 lb (DLC101-1K)

0.07 lb (DLC101-5K)

Weight: 43 g (1.5 oz) nominal

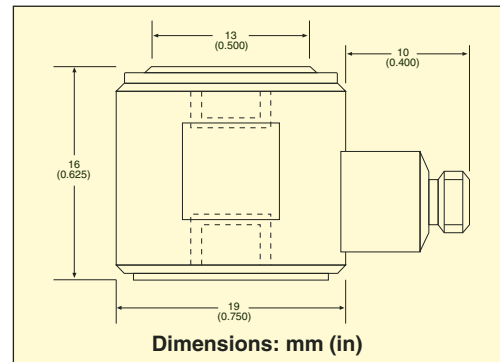
Material: 17-4 PH SS housing (RC 44)

Diameter of Top Force-Sensitive

Surface: 13 mm (0.50")

Mounting Holes: 1/4-28 x 0.175" deep tapped hole

DLC101, \$420, with impact cap and mounting stud, included, shown larger than actual size.



Connector: Internal side coaxial, 10-32 male termination (cable not included; order model no. ACC-CB2-10)

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

MODEL NO.	PRICE	COMPRESSION RANGE (lb)	TENSION
DLC101-10	\$420	0 to 10	0 to 10
DLC101-50	420	0 to 50	0 to 50
DLC101-100	420	0 to 100	0 to 100
DLC101-500	420	0 to 500	0 to 500
DLC101-1K	420	0 to 1000	0 to 500
DLC101-5K	420	0 to 5000	0 to 500
ACC-CB2-10	55	3 m (10') coaxial cable (10-32/BNCM) required	

ACCESSORIES

MODEL NO.	PRICE	DESCRIPTION
ACC-PS1	\$205	Battery power supply (BNCF connections)
ACC-PS2	530	Battery power supply/amplifier (BNCF connections)
ACC-PS3	475	AC power supply (BNCF connections)
INTERFACE CABLES USED BETWEEN POWER SUPPLY AND INSTRUMENTATION		
ACC-CB4-15	\$65	4.6 m (15') coaxial cable (BNCM/BNCM)
ACC-CB5-2	25	0.6 m (2') coaxial cable (BNCM/banana plug)
ACC-CB6	15	178 mm (7") coaxial cable (BNCM/pigtail)
ME-1741	195	Reference Book: Engineering Systems Dynamics

Note: See pages K-20 through K-22 for details on the above power supplies and cables.

Ordering Example: DLC101-10, transducer, ACC-CB2-10, cable, ACC-PS1, power supply, ACC-CB6, BNCM/pigtail cable, \$420 + 55 + 205 + 15 = \$695.

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