

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

DLC101 Series



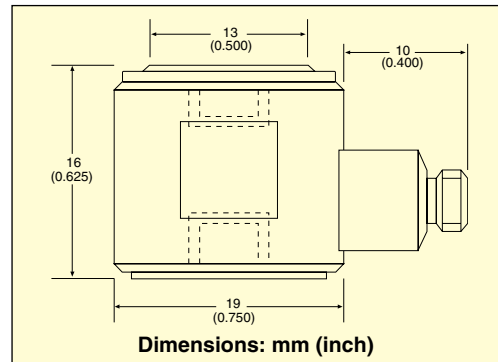
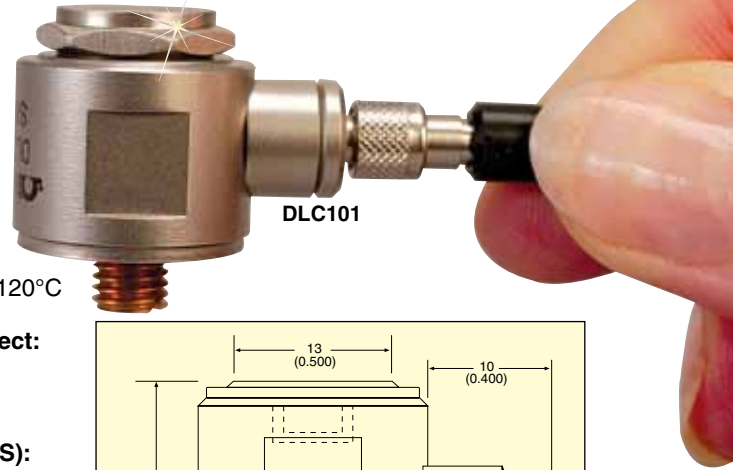
- ✓ Ideal for Measuring Impact or Pulsating Forces
- ✓ Frequency Range Up to 25 kHz
- ✓ Force Ranges Up to 5000 lb
- ✓ Calibration Certificate Supplied
- ✓ Stainless Steel Impact Cap and Mounting Stud Provided

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: 5V 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: 10V 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



Connector: Internal side coaxial, 10-32 male termination (cable sold separately; order **ACC-CB2-10**)

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

Comes complete with impact cap, mounting stud, calibration certificate and operator's manual.

ACCESSORIES

MODEL NO.	DESCRIPTION
ACC-PS1	Battery power supply/amplifier (BNCF connections)
ACC-PS2	Battery power supply/amplifier (BNCF connections)
ACC-PS3	AC power supply/amplifier (BNCF connections)
INTERFACE CABLES USED BETWEEN POWER SUPPLY AND INSTRUMENTATION	
ACC-CB4-15	4.6 m (15') coaxial cable (BNCM/BNCM)
ACC-CB5-2	0.6 m (2') coaxial cable (BNCM/banana plug)
ACC-CB6	178 mm (7") coaxial cable (BNCM/pigtail)

Visit us online for details on the above accessories.

Ordering Example: DLC101-10, transducer, ACC-CB2-10, cable, ACC-PS1, power supply, ACC-CB6, BNCM/pigtail cable.