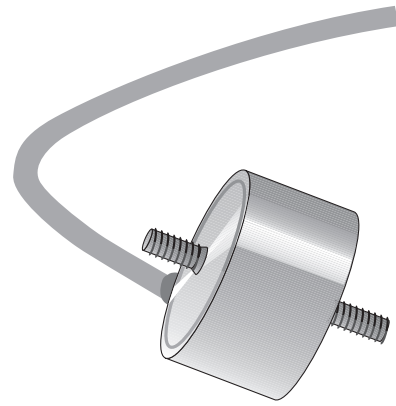


omega.com[®]

Ω OMEGA[®]

LCFA Series

Miniature Tension and Compression Load Cell



INSTRUCTION
SHEET

M1994-0504

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Unpacking Instructions

Remove the Packing List and verify that you have received all equipment, including the following (quantities in parentheses):

LCFA Load Cell (1)
Calibration Sheet (1)
Instruction Sheet (1)

If you have any questions about the shipment, please call the OMEGA Customer Service Department.

When you receive the shipment, inspect the container and equipment for signs of damage. Note any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

NOTE

The carrier will not honor damage claims unless all shipping material is saved for inspection. After examining and removing contents, save packing material and carton in the event reshipment is necessary.

Description

The OMEGA[®] LCFA Series Load Cell is a reliable and accurate load sensor. The load cell is constructed of high quality 17-4PH stainless steel which assures accurate and repeatable measurements (units of 1000 gram capacity and under are constructed of aluminum). The internal construction of these load cells consists of a full four arm wheatstone bridge which assures excellent long term accuracy from 10 gm to 10,000 lb.

How Load Cells Work

Load cells have an output or sensitivity in mV/V. What this sensitivity/output represents is as follows:

Change in millivolt output from zero load to full scale capacity of the load cell (21.3mV in this example) = $\frac{\text{output}}{\text{sensitivity}} \times \text{excitation}$
 $(21.3\text{mV}) = \frac{\text{output}}{(2.13\text{mV/V})} \times (10.0\text{Vdc})$

No load cell has exactly zero millivolts at no load. Most cell have a small millivolt dc offset of a few millivolts which is normal. To scale a system the end user just scales his recorder/meter for a full scale change of (21.3mV per example), and connects the load cell in a no load situation and rezeros the pens/display for a correct zero reading.

Wiring Diagram

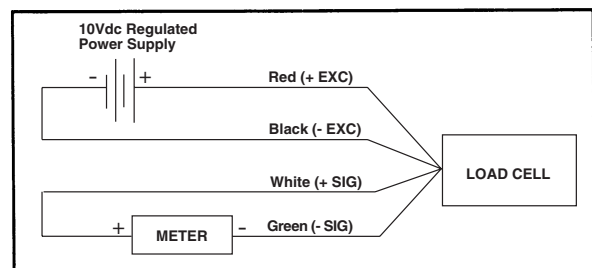


Figure 1. Wiring the Load Cell



Specifications

Rated Output:	2mV/V nominal (see calibration sheet for exact output)	Excitation:	10Vdc
Operating Temperature:	15° to 150°F (-9 to 66°C)	Linearity:	±0.2% FS
Storage Temperature:	-15° to 170°F (-26 to 77°C)	Hysteresis:	±0.1% FS
Compensated Temperature:	15° to 150°F (-9 to 66°C)	Zero Balance:	Better than 1% FS
Repeatability:	±0.1% FS	Bridge Resistance:	350Ω
Construction:	17-4PH stainless steel, 44RC (units of 1000g and under are of aluminum construction)	Maximum Load	
		Safe:	150%
		Ultimate:	250%
		Electrical:	36" Teflon insulated with polyvinyl over SS overbraid. 4 conductor 30AWG (refer to Wiring Diagram)

Dimensions: See table and Figure 2.

LOAD	LIN. & HYST.	THREAD	D	H	C	STRAIN GAGE
50, 150, 250, 500 gm	±0.2% FS	6-32NC	1.00	0.50	0.40	350Ω Foil
1000 gm, 5, 10, 25 lb	±0.2% FS	1/4-28NF	1.00	0.50	0.40	350Ω Foil
50, 100, 250, 500, 1000 lb	±0.2% FS	1/4-28NF	1.00	0.50	0.40	350Ω Foil
2000, 3000 lb	±0.2% FS	3-8-24UNF	1.00	0.75	0.50	350Ω Foil
4000, 5000 lb	±0.2% FS	1/2-20UNF	1/25	1.00	0.90	350Ω Foil
7500, 10,000 lb	±0.2% FS	3/4-16UNF	1.25	1.00	0.90	350Ω Foil

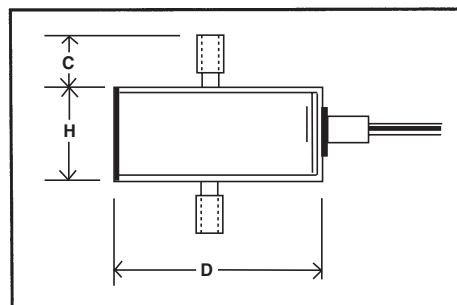


Figure 2. Dimensions



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OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. **BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS).** The assigned AR number should then be marked on the outside of the return package and on any correspondence. The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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