1 YEAR WARRANTY

MADE IN USA

User's Guide

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LCKD SERIES
Subminiature Compression Load Cells

NOTE

Each LCKD Series Load Cell incorporates a small printed circuit board into the load cell's lead wire. DO NOT remove this board or cut the cable between the compensation board and load cell. Removal of this board voids the calibration and warranty of the load cell.

General

The OMEGA® LCKD Series subminiature compression load cells are compression-only units that are highly cost-effective. To ensure excellent long-term stability and reliability in severe environments, the LCKD Series utilize high quality strain gages, precision gaging techniques and all stainless steel construction. These units have a load button machined as an integral part of the basic load cell. The load cell is designed to operate by mounting on a flat surface. The LCKD must rest on a flat surface the same diameter as the D_1 dimension for proper operation.

Shunt Calibration

The LCKD Series are highly accurate millivolt output type load cells with shunt calibrator for quick calibration checks. Shunt calibration allows the user to install and calibrate the instrument in the field without the use of a dead weight tester. A 59 kilohm resistor is shorted across negative excitation and negative signal output at the factory, which produces a simulated millivolt signal out of the transducer. The shunt calibration signal is equivalent to a simulated pressure of:

$$\text{Simulated Load} = \frac{\text{Shunt Cal mV/V}}{\text{Calibration Factor mV/V}} \text{ x Full Scale Load}$$

Example: Model LCKD

Where:
Calibration Factor - 2.0315 mV/V
Shunt Cal - 1.4962 mV/V

$$\text{Simulated Load} = \frac{1.4962}{2.0315} \times 50 = 36.85$$

To set up the transducer in the field, follow these steps:

1. Connect transducer excitation terminals to dc power supply.
2. Connect transducer signal output terminals to readout instrument (DVM, Analog meter, etc.)
3. Turn power on.
4. Null transducer signal output with zero adjust potentiometer on meter.
5. Short a 59 kilohm resistor across negative excitation and negative signal output.

6. Adjust the span potentiometer until the readout instrument reads the simulated load as computed above (or that percent of full scale pressure).
7. Remove 59 kilohm resistor and repeat steps 4 to 6 if necessary. (Span and Zero adjust pots may interact).
8. The meter is now calibrated.

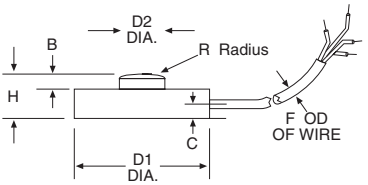
IMPORTANT:
Every load cell comes with a calibration sheet stating its full scale output, and this manual. Please save both.

Specifications:

Signal Output:	See calibration sheet
Linearity and Hysteresis:	±0.25% full scale
Repeatability:	±0.1% full scale
Compensated Temperature Range:	60 to 160°F (16 to 71°C)
Operating Temperature Range:	-65° to 225°F (-54 to 107°C)
Temperature Effect:	Zero 0.01% full scale/°F; Span 0.01% of reading/°F
Bridge Resistance:	350 ohm bonded foil gage
Excitation Voltage:	5 Vdc, 7 Vdc max.
Full Scale Deflection:	0.001" to 0.003"
Safe Overload:	150%
Construction:	Stainless Steel
Electrical:	5 ft. four conductor cable
Weight:	<0.5 oz.

WIRING CODE
RED (+) EXCITATION
BLACK (–) EXCITATION
GREEN (–) OUTPUT
WHITE (+) OUTPUT

DIMENSIONS



RANGES	D1"	D2"	H"	B"	C"	F"	R"
1 kg; 25; 50 lbs	0.38	0.09	0.12	0.03	0.04	0.05	0.25
100; 250 lbs	0.50	0.12	0.15	0.02	0.06	0.05	0.50
500; 1000 lbs	0.75	0.24	0.25	0.03	0.10	0.05	4.0

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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

MADE IN USA

WARRANTY/DISCLAIMER

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 in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

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.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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