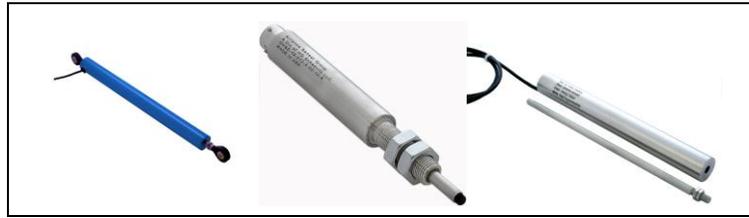




LDI Series



Linear Sensors

INSTRUCTION SHEET

M-5470/0515

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Omega Engineering Inc. Wiring and Field Programmability Instructions

Standard I/O connections for a 4-conductor cable or PTO2-10 6-pin connector on an LDI linear sensor are shown below

Please note that your LDI sensor was calibrated at the factory to a specified measuring range. You may choose to retain this calibration if it suits your purpose, or you may choose to recalibrate your sensor using the Field Programmability feature if you desire a more precise match of the sensor's electrical output to your mechanical device's range of movement.

Omega's LDI Linear Position Sensors Field Programmability feature allows the installer to very simply and quickly match the full scale electrical output of the sensor to the actual mechanical range of movement of the device in which the sensor is installed. This type of activity is usually referred to as field calibration. To proceed with the field calibration, follow these instructions:

1. Install the sensor into your mechanical device, leaving the sensor's I/O unconnected.
2. Connect the *black* wire or *common ground* pin to power ground (-), and then connect the correct DC power input (+) to the sensor via the *red* wire or *power (+)* pin.
3. To begin the Field Programmability process for voltage output, connect a DC voltmeter having the appropriate range (10 Volts) with its plus (+) test lead connected to the *green* wire or *analog output* pin, and the meter's (-) test lead connected to the *black* wire or *common ground* pin.
4. To begin the Field Programmability process for current loop output, connect a DC milliammeter having an appropriate range with its plus (+) test lead connected to the *green* wire or *analog output* pin and its minus (-) test lead connected to one end of the loop load resistor, typically 250 or 500 Ohms. Connect the other end of the loop load resistor to the *black* wire or *common ground* pin.
5. Extend your mechanical device to its full range of motion, then connect the *white (cal)* wire or *cal* pin to the *black* wire or *common ground* pin for 2-3 seconds.
6. Fully retract the mechanical device to its zero or start position, then connect the *white (cal)* wire or *cal* pin to the *black* wire or *common ground* pin for 2-3 seconds.
7. The sensor's output is now calibrated to the end points of your mechanical device's range of motion. The Field Programmability procedure can be redone without limit, but its operational range is limited to 20% of specified full range, both at zero and at full range. (0 to 20% around zero, and 80 to 100% around full range) Note that both ends of the sensor's range must be calibrated using the Field Programmability procedure for the process to take effect.
8. When the Field Programmability process is completed, disconnect the voltmeter, or, in the case of current loop output, disconnect the milliammeter and reconnect the loop load to the *green* wire or *analog output* pin. If you are using a cable output sensor, you may wish to trim and insulate the end of the *white (cal)* wire to avoid an inadvertent or accidental recalibration.

Conductor Color or Connector Pin

Red or Pin E: + Power Input: 12-30 V DC (min. 18 V DC for 4 - 20 mA current output)

Black or Pin D: Common Ground

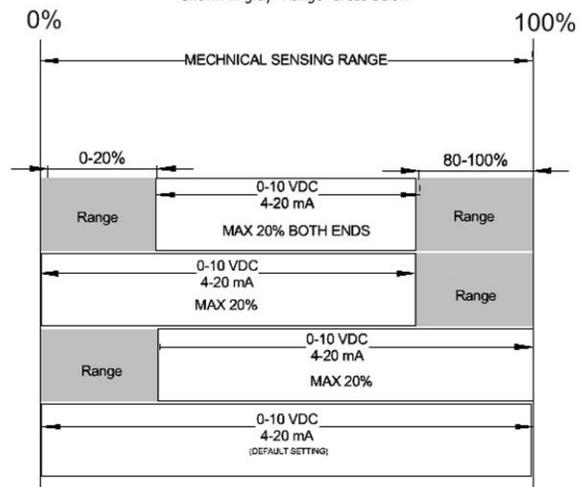
Green or Pin A: Analog DC Output: 0 -10 V or 4 - 20 mA

White or Pin B: Field Programmability (*cal*)

NOTE: The 4-20 mA DC output is 3-wire sourcing, Do not connect to 2-wire loop-powered system

Field Programmability

Shown in gray "Range" areas below





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



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.

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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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