

## Technical Support

For complete product documentation, video training, and technical support, go to [www.flowline.com](http://www.flowline.com).

For phone support, call 562-598-3015 from 8am to 5pm PST, Mon - Fri. (Please make sure you have the Part and Serial number available.)

Flowline Inc. 10500 Humbolt St, Los Alamitos, CA 90720



### Warranty

Flowline warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by Flowline for a period, which is equal to the shorter of one year from the date of purchase of such products or two years from the date of manufacture of such products. Flowline's obligation under this warranty is solely and exclusively limited to the repair or replacement, at Flowline's option, of the products or components, which Flowline's examination determines to its satisfaction to be defective in material or workmanship within the warranty period. Flowline must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired or replaced under this warranty will be warranted only for the remainder of the original warranty period.

### Returns

Products cannot be returned to Flowline without Flowline's prior authorization. To return a product that is thought to be defective, go to [www.flowline.com](http://www.flowline.com), and submit a customer return (MRA) request form and follow the instructions therein. All warranty and non-warranty product returns to Flowline must be shipped prepaid and insured. Flowline will not be responsible for any products lost or damaged in shipment.

### Limitations

This warranty does not apply to products which: 1) are beyond the warranty period or are products for which the original purchaser does not follow the warranty procedures outlined above; 2) have been subjected to electrical, mechanical or chemical damage due to improper, accidental or negligent use; 3) have been modified or altered; 4) anyone other than service personnel authorized by Flowline have attempted to repair; 5) have been involved in accidents or natural disasters; or 6) are damaged during return shipment to Flowline. Flowline reserves the right to unilaterally waive this warranty and dispose of any product returned to Flowline where: 1) there is evidence of a potentially hazardous material present with the product; or 2) the product has remained unclaimed at Flowline for more than 30 days after Flowline has dutifully requested disposition. This warranty contains the sole express warranty made by Flowline in connection with its products. ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED. The remedies of repair or replacement as stated above are the exclusive remedies for the breach of this warranty. IN NO EVENT SHALL FLOWLINE BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING PERSONAL OR REAL PROPERTY OR FOR INJURY TO ANY PERSON. THIS WARRANTY CONSTITUTES THE FINAL, COMPLETE AND EXCLUSIVE STATEMENT OF WARRANTY TERMS AND NO PERSON IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES OR REPRESENTATIONS ON BEHALF OF FLOWLINE. This warranty will be interpreted pursuant to the laws of the State of California. If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty.



Model: LD31 & LD32

## DeltaSpan Submersible Level Transmitter

### Quick Start

QS301312 Rev.B  
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## Welcome to the DeltaSpan Quick Start

The DeltaSpan Quick Start is meant to show some of the more common setup solutions to getting the DeltaSpan up and running quickly. If you run into an issue that is not addressed here or wish to install or set up with a non-standard configuration, please address the DeltaSpan Manual or refer to the Flowline website at [www.flowline.com](http://www.flowline.com).

## We Do Your Level Best

The LD31 Series DeltaSpan consists of a piezoresistive sensing element, encased in 316 SS housing. Superior lightning and surge protection utilizing dual arrestor technology, grounded to case, eliminates both power supply surges and lightning ground strike transients. Bullet nose design protects diaphragm from damage.

The LD32 Series DeltaSpan consists of a piezoresistive sensing element, encased in 316 SS housing. It is perfect for wastewater and slurry applications with features to protect the unit from these demanding applications. Superior lightning and surge protection utilizing dual arrestor technology, grounded to case, eliminates both power supply surges and lightning ground strike transients. Large diameter 316 SS diaphragm seal is non-clogging and damage resistant to floating solids.

Both units come equipped with a 270-pound tensile strength, shielded, vented cable. Ventilation tube in the cable automatically compensates for changes in atmospheric pressure above the tank. The vent tube has a filter attached to the end that will block particles, such as dust, dirt, and water droplets, from entering the tube.

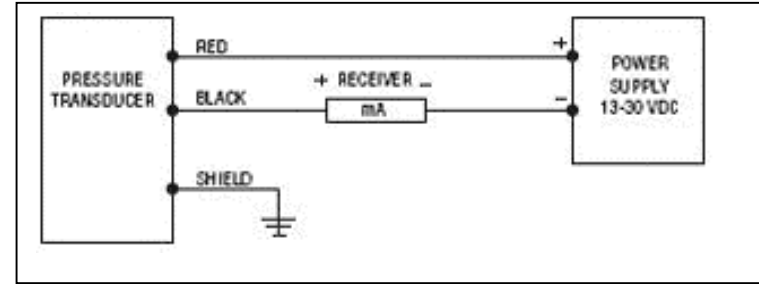
This Quick Start includes everything you'll need to get the DeltaSpan up and running. For complete information, please refer to DeltaSpan documentation located at [www.flowline.com](http://www.flowline.com).

Compensated Temperature Range	
LD31	0 to 140° F (-18 to 60° C)
LD32	0 to 180° F (-18 to 82 °C)

Pressure Range	Max. Distance Measured
5	11.5' / 3.5M
10	28' / 7.4M
15	34' / 10.5M
20	46' / 14.0M

## Electrical Installation

An external power supply delivering 13-30 VDC with minimum current capability of 40 mA DC (per transmitter) is required to power the control loop. The Current Output diagram (shown below) shows the connection of the power supply, transmitter and receiver.



Current Output

The maximum receiver load resistance (RLmax) for the DC power supply voltage (Vsup) is expressed by the formula:  $RL\ Max = \frac{V\ sup - 13V}{0.02A}$

Shielded cable should always be used for control loop wiring.

Maximum Loop Resistance is 850 ohms @ 30 VDC.

## Troubleshooting

If you face any issues not addressed in this quick start, please refer to the DeltaSpan Manual located on Flowline website at [www.flowline.com](http://www.flowline.com).

## Safety Concern

Where personal safety or significant property damage can occur due to a spill, the installation must have a redundant backup safety system installed.