

DeltaSpan™

General Purpose External Mount Pressure Level Transmitter

LD30 Series Quick Start



**Cable Series
(LD30-S_01)**



**Conduit Series
(LD30-S_11)**

QS301030 Rev C
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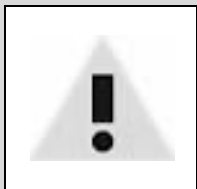


Welcome to the DeltaSpan™ Quick Start

The DeltaSpan™ Quick Start provides basic mounting, setup and use instructions for getting the DeltaSpan™ up and running quickly. If you have a non-standard installation or setup requirement that is not addressed here, please refer to the DeltaSpan™ Manual or other support documentation located at www.flowline.com.

We Do Your Level Best

Thank you for purchasing DeltaSpan™. The general purpose external mount pressure level transmitter provides continuous level measurement up to 69' (21.1m) WC powered by the 4-20 mA loop. The LD30 Series can be used to accurately measure compatible gases and liquids; full scale accuracy is 0.25%. Designed for industrial environments with a NEMA 4X (IP66) housing, this transmitter resists most effects of shock and vibration. This Quick Start includes everything you'll need to get the sensor up and running.



CAUTION

Do not exceed specified supply voltage ratings. Permanent damage not covered by warranty will result. This device is not designed for 120 or 240 volt AC operation. **Use only on 13 to 30 VDC.**

Pressure Ranges		Compensated Temperature Range
Pressure Range (PSIG)	Max. Distance Measured	
0-5	11.5' (3.5m) WC	-18° to 79°C 0° to 175°F
0-15	34.6' (10.1m) WC	
0-30	69.3' (21.1m) WC	

Installation

First, select a location. The DeltaSpan should be located within a temperature range of 0 and 175°F (-18 to 79°C). Distance from the receiver is limited only by total loop resistance. While the tubing or piping supplying pressure to the unit can be practically any length, remember that long lengths will increase response time slightly.

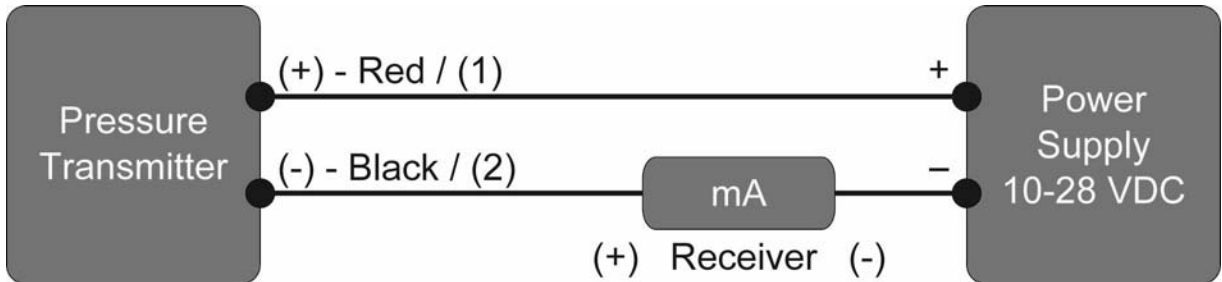
Next, position the DeltaSpan. Although the transmitter is not position sensitive, standard models are factory calibrated in a position with the pressure connection downward. The DeltaSpan functions at greatest accuracy in this position.

Create a pressure connection. Use a small amount of plumber's tape or other suitable sealants to prevent leaks. Be sure the pressure passage inside the port is not blocked.

Finally, check your Electrical Connections. The maximum length of wire connecting the transmitter and receiver is a function of wire size and receiver resistance. Wiring should not contribute more than 10% of the receiver resistance to total loop resistance. For runs

exceeding 1000 feet, choose receivers with higher resistance to minimize the size and cost of connecting leads. Where wiring length is under 100 feet, wire as small as 22 AWG can be used.

Electrical connections to the pressure transmitters are made to the terminal block located inside the housing. Remove the screws and lift off the cover. Wire as shown in the diagram below. When using cable version of General Purpose Housing with Cable, black wire is negative (-) and red wire is positive (+).



Current Output

Current (4-20 mA) Output Operation

An external power supply delivering 13-30 VDC with minimum current capability of 40mA DC (per transmitter) is required to power the control loop. The Current Output diagram (above) shows the connection of the power supply, transmitter and receiver. The range of appropriate receiver load resistance (RL) for the DC power supply voltage available is expressed by the formula:

$$RL \text{ Max} = \frac{V_{ps}-13}{20 \text{ mA DC}}$$

Shielded cable should always be used for control loop wiring.

Maximum Loop Resistance is 1300ohms @ 30VDC.

Maintenance

After final installation of the pressure transmitter and its companion receiver, no routine maintenance is required. A periodic check of system calibration is suggested. The LD30 transmitters are not field repairable and should be returned if repair is needed.

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.

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

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 of 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 under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the full two years from the date of manufacture.

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, 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.

For complete product documentation, video training, and technical support, go to 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.)