

Operation Manual

MODEL DO3910

2-Wire DO Transmitters

JENCO ELECTRONICS, LTD.

MANUFACTURER OF PRECISION INSTRUMENTS

CONTENTS

GENERAL INTRODUCTION.....	2
INITIAL INSPECTION.....	3
USING THE JENCO MODEL DO3910.....	3
4-20mA OUTPUT AND POWER SUPPLY.....	6
OUTPUT ISOLATION.....	7
SPECIFICATIONS.....	7
WARRANTY.....	8

GENERAL INTRODUCTION

Thank you for selecting the JENCO Model DO3910. The DO3910 is a 2-wire DO transmitter with input/output isolation, wide power supply range, LCD display, modular design and housed in a NEMA 4X enclosure.

The model DO3910 can be used with any DO probe with DO+ and DO- connector. The input signal is converted to a 4 to 20mA DC current output for indication, control, etc. The power supply range required to operate the transmitter is 11 to 50 VDC.

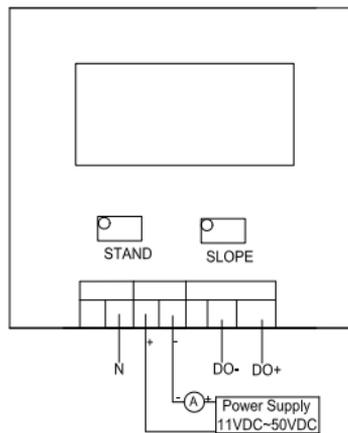
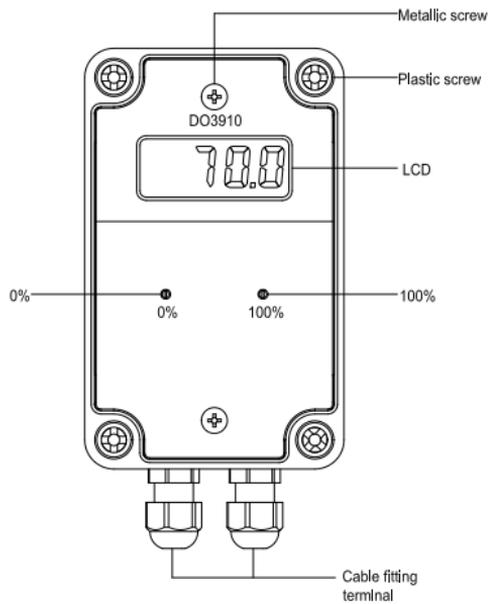
Input/output signal isolation eliminates ground loops and ground voltage differentials. In many applications, the signal ground can vary as much as a few hundred volts from the output ground.

INITIAL INSPECTION

Carefully unpack the unit and accessories. Inspect for damages made in shipment. If any damage is found, notify your **Jenco** representative immediately. All packing materials should be saved until satisfactory operation is confirmed.

USING THE JENCO MODEL DO3910

1. Loosen the 4 plastic screws on the transparent cover of the DO3910. Remove the transparent cover.
2. Loosen the 2 metallic screws on the faceplate. Remove the faceplate. Save the white plastic supporting shaft of the bottom metallic screw for later use.
3. Thread the DO probe connecting cable and the power supply cable through the cable fitting terminals. Ensure the polarity of the power supply cable is connected properly. See connection diagram.
4. Reattach the faceplate. Reattach the plastic supporting shaft to the bottom screw. Fasten the 2 metallic screws.



5. Rinse the DO probe with distilled water, hold the probe in the air gently with the sensor facing down and wait 60 to 120 minutes for the dissolved oxygen reading to stabilize.
6. Immerse the electrode in the saturated sodium sulfite solution. After the reading is stabilized, adjust the 0% VR for the display to 00.0 (%). Remove the probe from the saturated sodium sulfite solution.
7. Rinse the DO probe with distilled water, hold the probe in the air gently with the sensor facing down and wait the dissolved oxygen reading to stabilize. Adjust the 100% VR for the display to 100.0 (%).
8. Repeat steps 6 and 7 until the two displayed DO readings (00.0% and 100.0%) are identical.
9. Reattach the transparent cover. Fasten the 4 plastic screws. Calibration is now complete and the DO3910 is ready to take measurements.

4-20 mA OUTPUT AND POWER SUPPLY

1. The factory output of the transmitter is set to 4 mA (0.0%) and 20 mA (200.0%) and cannot be modified. The DO value can be obtained by measuring the transmitter output current (A) based on the following equation.

2. $DO = [(A-4) / 16] \times [DO \text{ at } 20 \text{ mA} - DO \text{ at } 4 \text{ mA}] + DO \text{ at } 4 \text{ mA}$

3. Example: A = 12 mA

DO value at 4 mA is 0.0, DO value at 20 mA is 200.0

$$DO = [(12-4) / 16] \times [200.0-0.0] + 0.0=100.0$$

4. The minimum load (R) is determined by the following equation:

$$R = [\text{Supply Voltage} - 11] / 20$$

The maximum load (R) includes the total loop resistance of the lead wires from the power supply.

Ambient Temperature range	0.0 to 50.0 °C
Case	IP65
Weight	350 g

WARRANTY

Jenco warrants this product to be free from significant deviations in material and workmanship for a period of 1 year from date of purchase. If repair or adjustment is necessary and has not been the result of abuse or misuse, within the year period, please return-freight-prepaid and the correction of the defect will be made free of charge. If you purchased the item from our **Jenco** distributors and it is under warranty, please contact them to notify us of the situation. **Jenco** Service Department alone will determine if the product problem is due to deviations or customer misuse.

Out-of-warranty products will be repaired on a charge basis.

RETURN OF ITEMS

Authorization must be obtained from one of our representatives before returning items for any reason. When applying for authorization, have the model and serial

number handy, including data regarding the reason for return. For your protection, items must be carefully packed to prevent damage in shipment and insured against possible damage or loss. **Jenco** will not be responsible for damage resulting from careless or insufficient packing. A fee will be charged on all authorized returns.

【Note】 : **Jenco** reserves the right to make improvements in design, construction and appearance of our products without notice.

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