

OPERATION MANUAL

THE JENCO MODEL 3671 pH/ORP CONTROLLER

JENCO ELECTRONICS, LTD.

MANUFACTURER OF PRECISION INSTRUMENTS

GENERAL INTRODUCTION

The model 3671 is an all solid state designed for pH/ORP measurement and control. Two output relays are provided in the model 3671 for ON/OFF control.

A linearized 10mV per LSD, least significant digit, is provided to interface with other instrument with analog input such as recorder, printer, etc.

A front panel programmable HIGH/LOW alarm relay is provided in the model 3671.

The model 3671 is housed in 1/8 din aluminum case, allowing it to fit into standard panel cut-outs as well as the most commonly available industrial weatherproof and environmental housings.

INITIAL INSPECTION

Carefully unpack the instrument and accessories. Inspect for damage in shipment. If any damage is found, NOTIFY YOUR JENCO REPRESENTATIVE IMMEDIATELY. All packing material should be saved until satisfactory operation is confirmed.

A. MOUNTING PROCEDURE

1. Make a cutout on any panel, with a thickness of 1/16 in. (1.5mm) to 3/8 in. (9.5mm)
REFER TO FIGURE 1.
2. Remove the mounting screw and mounting bracket from the panel meter and insert the panel meter into the cutout.

REFER TO FIGURE 2.

3. Slide the mounting bracket and fasten the mounting screw to secure the panel meter to the mounting panel.

REFER TO FIGURE 3.

B. WIRING DIAGRAM

1. Connect the AC line, high set relay output and low set relay output per DROWING

4. Refer to section E.2. for recommended relay connections.

2. Loosen the front panel screw on the model 3671 and pull the front panel. Set the internal pH/ORP SELECT SWITCH to the desired mode of operation. Push the front panel back to the original position and fasten the front panel screw.

REFER TO FIGURE 5.

3. pH mode, REFER TO FIGURE 4.

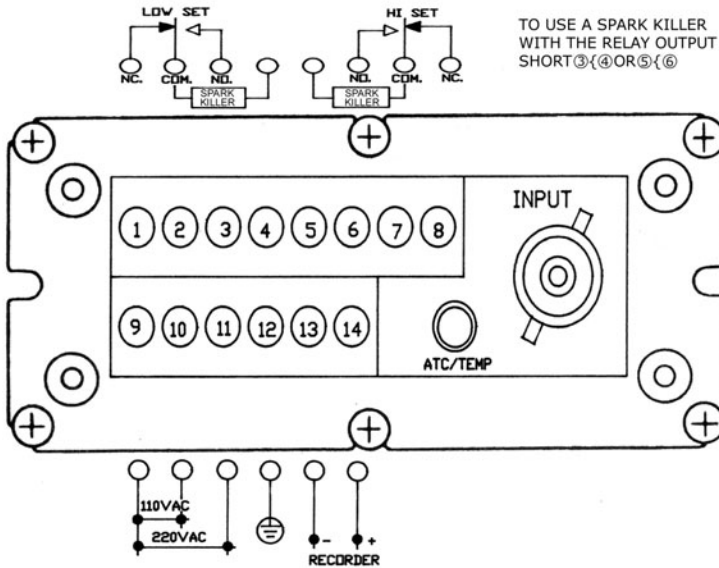
- 3.1 Connect a pH combination electrode with BNC connector to the INPUT.

- 3.2 Connect a PT100 ATC/TEMP probe with a miniature phone jack to the ATC/TEMP input.

4. ORP Mode, REFER TO FIGURE 4.

- 4.1 Connect an ORP combination electrode with BNC connector to the INPUT.

- 4.2 Connect a PT100 temperature probe to the ATC/TEMP input only if temperature measurement is required.



REAR PANEL WIRING DIAGRAM

DRAWING 4

C. pH AND ORP MEASUREMENTS

1. pH standardization

- 1.1 Immerse the pH electrode and ATC/TEMP probe in buffer 7.00.
- 1.2 Press the TEMP switch on the front panel, the meter indicates the temperature of the buffer 7.00. Allow sufficient time for the pH electrode and ATC/TEMP probe to reach the buffer temperature.
- 1.3 Set the CALIB control on the front panel for the meter to read the buffer value corresponding to the temperature value indicated in step 1.2. REFER TO TABLE 1.
- 1.4 Immerse the pH electrode and ATC/TEMP probe in buffer 4.01 or buffer 10.01.
- 1.5 Press the TEMP switch on the front panel, the meter indicates the temperature of the buffer 4.01 or 10.01. Allow sufficient time for the pH electrode and ATC/TEMP probe to reach the buffer temperature.

- 1.6 Set the SLOPE control on the front panel for the meter to read the buffer values corresponding to the temperature value indicated in step 1.5 REFER TO TABLE 1.
- 1.7 The meter is standardized and ready for measurements.
2. In the ORP mode the meter indicates the absolute values of the measured mV.

TEMPERATURE COEFFICIENT OF pH BUFFER

	BUFFER 10.01	BUFFER 7.00	BUFFER 4.01
0	10.3	7.1	4.0
5	10.3	7.1	4.0
10	10.2	7.1	4.0
15	10.1	7.0	4.0
20	10.1	7.0	4.0
25	10.0	7.0	4.0
30	10.0	7.0	4.0
35	9.9	7.0	4.0
40	9.9	7.0	4.0
45	9.9	7.0	4.0
50	9.8	7.0	4.1
55	9.8	7.0	4.1
60	9.8	7.0	4.1

TABLE 1

D. CONTROLLER SET POINTS

1. High set
 - 1.1 Press the HI SET switch on the front panel. The meter indicates the value of the high set point.
 - 1.2 Adjust the HI SET control on the front panel for the desired pH or mV values of the high set point.
 - 1.3 Release the HI SET switch, the meter again indicates the process pH or mV values.
2. Low set
 - 2.1 Press the LOW SET switch on the front panel. The meter indicates the value of the low set point.

- 2.2 Adjust the LOW SET control on the front panel for the desired pH or ORP values of the low set point.
- 2.3 Release the LOW SET switch, the meter again indicates the process pH or mV values.
3. Both the high and low set points has a built in hysteresis of +/- 1 digit, ie, +/- 0.1 pH in the pH mode and +/-10 mV in the ORP mode. Due to the hysteresis, the high and low set points should be at least 0.2 pH or 20 mV apart.

E. RELAY AND FRONT PANEL LED FORMAT

- 1.The internal HI SET relay and HI SET LED indicator on the front panel is energized when the process value is greater than the set value. The internal LOW SET LED indicator on the front panel is energized when the process value is less than the set value.
- 2.It is recommended to use the NO and COM terminals of the relay for control operations, since most system failures would de-energize the relays thus disrupting power to the external control devices.

F. TEMPERATURE MEASUREMENT WHEN MEASURING TEMPERATURE THE PROCESS WILL LOSE CONTROL

1. Press the TEMP switch on the front panel, and the meter will display the process temperature. The process value will again be displayed when the TEMP switch is released.
2. Temperature measurement of the model 3671 is recommended for pH standardization, refer to step C.1, and process temperature measurements before the control loop is established.

WARRANTY

Jenco Instruments, Ltd. 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 without 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, please 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 unauthorized returns.

NOTE: Jenco Instruments, Inc reserves the right to make improvements in design, construction, and appearance of our products without notice.

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