

OPERATION MANUAL

MODEL 691N pH transmitter

JENCO ELECTRONICS, LTD.

MANUFACTURER OF PRECISION INSTRUMENTS

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.

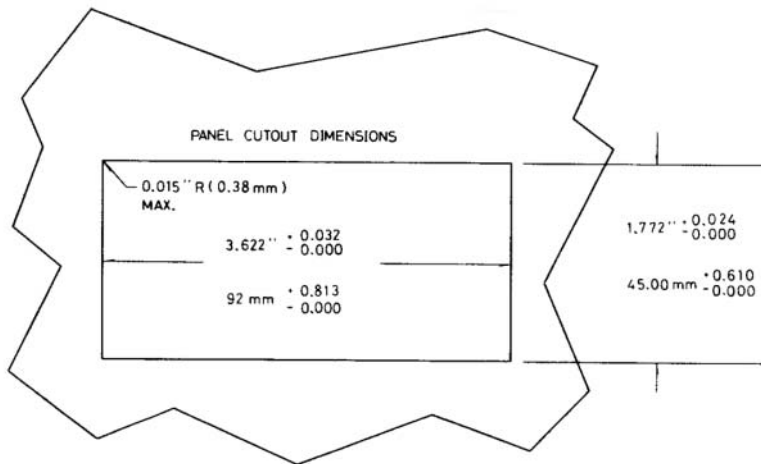
MOUNTING PROCEDURE

1. Make a cutout on any panel, with a thickness of 1/16 in. (1.5 mm) to 3/8 in. (9.5 mm). Refer to Drawing 1.
2. Remove the mounting screws and mounting brackets from the panel meter and insert the panel meter into the cutout. Refer to Drawing 2.
3. Slide the mounting brackets onto the panel meter and fasten the

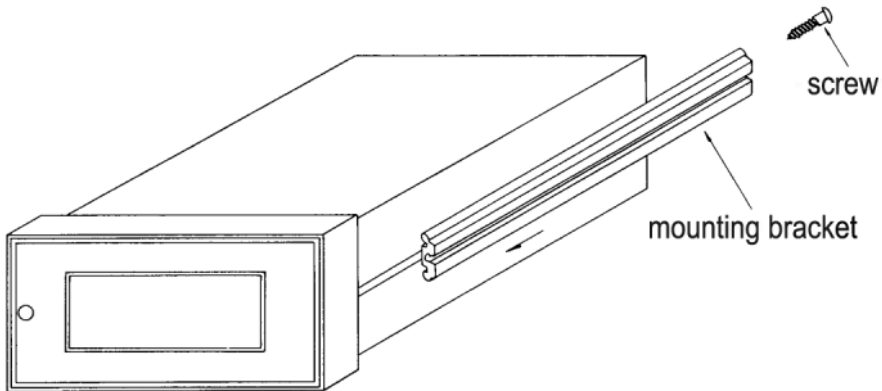
mounting screws to secure the panel meter to the mounting panel.
Refer to Drawing 3.

WIRING DIAGRAM

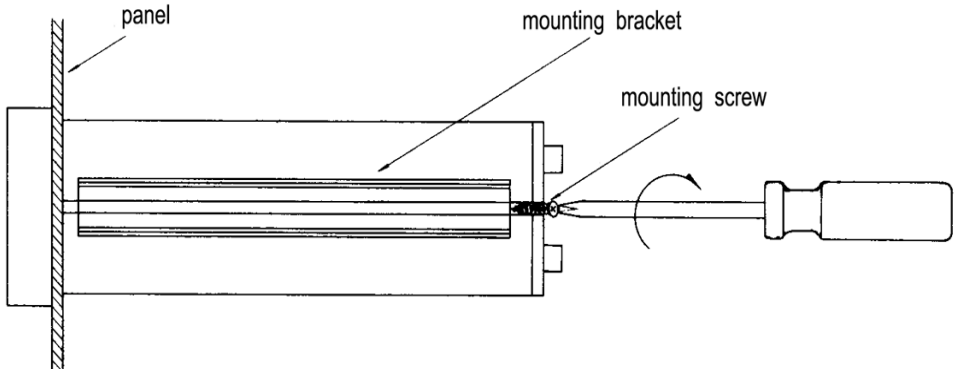
1. Connect the AC power input. 4 to 20 mA output. Refer to Drawing 4.
2. Connect a pH combination electrode with BNC connector to the BNC input. Refer to Drawing 4.



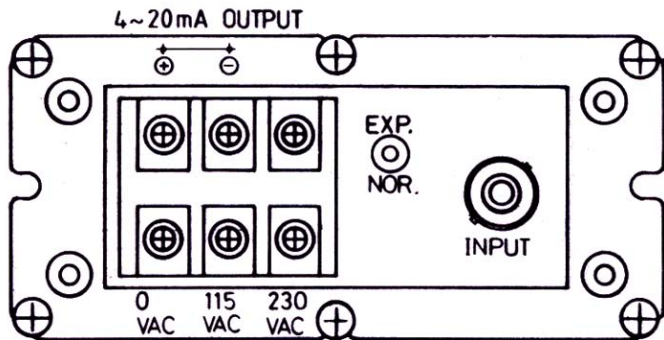
**Panel cutout
Drawing 1**



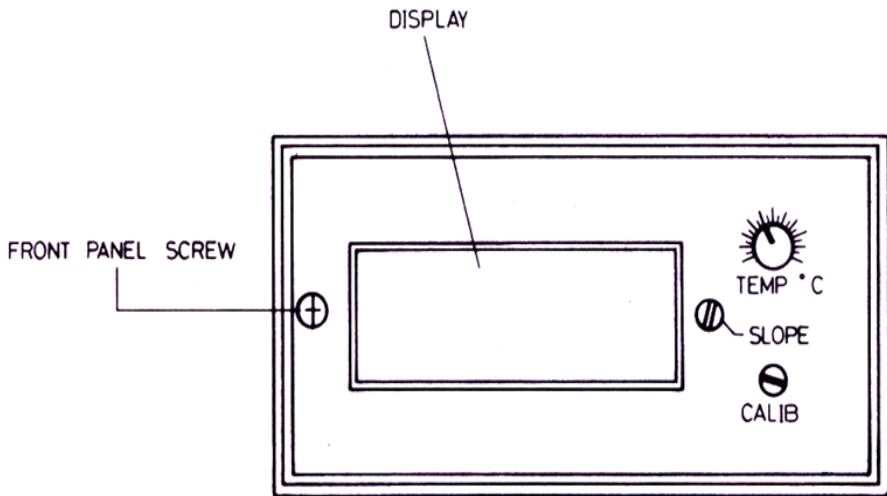
Panel meter mounting bracket and screw
Drawing 2



Mounting method
Drawing 3



Rear panel wiring diagram Drawing 4



Front panel diagram
Drawing 5

pH MEASUREMENTS

1. pH standardization

1.1 Immerse the electrode in buffer 7.

1.2 Set the temperature control on the front panel to the temperature of the buffer 7. Refer to Drawing 5.

1.3 Set the CALIB control for the meter to read the buffer value corresponding to the temperature as set in 1.2. Refer to TABLE 1.

1.4 Immerse the electrode in buffer 4 or buffer 10.

1.5 Set the TEMP control to the temperature of the buffer 4 or buffer 10.

1.6 Set the SLOPE control for the meter to indicate the buffer values corresponding to the temperature as set in 1.5. Refer to TABLE 1.

1.7 The meter is standardized and ready for measurements.

TEMPERATURE COEFFICIENT OF pH BUFFERS Table 1

°C	BUFFER 10.01	BUFFER 7.00	BUFFER 4.01
5	10.25	7.08	4.00
10	10.18	7.06	4.00
15	10.12	7.03	4.00
20	10.06	7.01	4.00
25	10.01	6.98	4.01
30	9.97	6.98	4.02
35	9.93	6.97	4.02
40	9.89	6.97	4.03
45	9.86	6.97	4.04
50	9.83	6.97	4.06
55	9.80	6.97	4.07
60	9.78	6.98	4.10

4-20 mA OUTPUT

1 . Normal mode

Set the MODE switch on the rear panel to the NOR. position. Refer to DRAWING 4. The 4-20 mA output is pre-set for 4 mA at pH 0 and 20 mA at pH 14.

2. Expanded mode

Set the MODE switch on the rear panel to the EXP. position. Refer to DRAWING 4. The 4-20 mA output is expanded to covers any 2 pH units. The center of the 4-20 mA output can be adjusted with a screw driver through the hole below the MODE switch.

2.1 Connect a milliammeter to the 4-20 mA output.

2.2 Set the meter to indicate the center value of the desired 4-20 mA range and adjust the 4-20 mA control for the milliammeter to read 12 mA. The output will then be 4 mA at 1

pH unit below the center value and 20 mA at 1 pH unit above the center value.

2.3 Example

Center value of the 691 is set at pH 7.31. The output will be 4 mA at pH 6.31 and 20 mA at pH 8.31.

OUTPUT ISOLATION

The transmitter output ground is isolated from the pH measurement circuitry. Since the input voltage from the pH electrode can differ greatly to that of the transmitter output load, the isolation between pH input and transmitter output can avoid introducing errors to the measurement system.

For the model 691 N, the voltage potential differential can be as high as 750 volts DC.

EARTH GROUND

It is a good practice to connect the third lead, earth ground, from the AC power line to the metal meter housing. Refer to Drawing 4.

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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