MODEL AH-331 Series INSTRUCTION MANUAL

Caution

- (1) The application of voltage or current exceeding its maximum allowable value to the input terminals may result in instrument
- (2) The supply of power out of its allowable range may cause fire, electric shock or instrument failure.
- (3) The content of this manual may subject to change without prior notice for product improvement.
- (4) This manual is carefully prepared. However, if any question arises, or any mistake, omission or suggestion is found in the content of this manual, contact your nearest our sales agent.
- (5) After read this manual, please keep it as anytime can see.

INTRODUCTION

This AH-331 Series panel meter is high reliable 3-1/2digit display meter based on a custom made LSI and will be very usefull in development of your new equipment.

A DC voltage of +5V can be used for meter drive. In addition, it has hold function. (option)

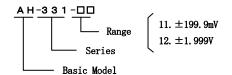
2. SPECIFICATIONS

●DC Voltage Measurement

Model No.	Measring	Resolution	Input	Input
Range Code	Range		Impedance	Protection
AH-331-11	$\pm 199.9 \text{mV}$	100 μ V	100ΜΩ	±100V
AH-331-12	±1.999V	1 mV	100ΜΩ	$\pm 100V$

Accuracy: \pm (0.1% of rdg +1digit) (at 23°C \pm 5°C, 35 to 85% RH)

● Model Configuration



3. COMMON SPECIFICATIONS

Measurement DC voltage Measurement Dual Slope A/D Conversion Operating Method

Single Ended Input Circuit 50pA(Typ.) Input Bias Current Approx. 2.5/sec Conversion Rate Noise Elimination NMR 40dB (Typ.) LED, 14.2mm (RED) Display

Maximum Reading 1999

Overrange Input signals exceeding maximum Indication indication range will flicker 1999 Automatically indicated (-) when Polarity Indication input signals negative

Hold; (option) External Control

Short circuit between

HOLD(terminal 9) and OV (terminal 8) Decimal point;

Can be set at a desired position 0 to 50℃, 35 to 85% RH

Operating Temperature

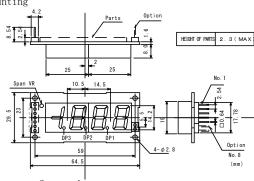
Power Supply $5V \pm 5\%$ Power Consumption 80mA (Typ.)

 $65mm(W) \times 29.5mm(H) \times 18.14mm(D)$ Dimensions

Approx. 20g Weight. Instruction Manual Accessory Option Hold terminal

4. HANDLING

4.1 Mounting



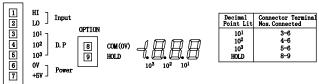
4.2 Connector Connection

1) Input Connection

Connect an Input Signal(DC Voltage) to terminals HI(terminal 1)and LO(terminal 2).

2)Decimal point setting

The decimal point can be set any position when the follwing connector terminals are shorted.



3) Power Connection

Connect power connector terminals OV(terminal 6) and +5V(terminal 7) Power consumption is Typ. 80mA.

4) Hold (option)

The displayed value can be held by shorting the HOLD (terminal 9) with the COM(terminal 8) or by setting the HOLD(terminal 9) to level "0". Measurement also starts by opening these terminals or by setting the HOLD(terminal 9) to level "1" at terminals or by setting the HOLD(terminal 9) to level the necessary timing. (Level "0" 0 to 1.5V, Level" 1" 3.5 to 5V)

5) Precaution for wiring In this product, LO(terminal 2) and OV(terminal 6) are internally connected.

4.3 Caution

For fixing the board, please use 2.6mm screw. When you use studs or spacers, please note no touching these parts with pattern.

5. MAINTENANCE AND INSPECTION

5.1 Caution for Maintenance

The storage temperature of this insterment should be within the range -10°C to +60°C with relative humidity not higher than 60%.

5.2 Calibration
■To maintain the initial accuracy of this instrument over an extened period, it is recommended that it be calibrated periodically by a standard reference device with an accuracy of 0.01%

Calibrate the meter by taking the following steps.

1)Connect the power supply and after running for at least 20 minutes, start adjusting the instrument as instructed below. 2)Zero adjustment

Short input terminals HI(terminal 1) and LO(terminal 2) and check the display shows 000.

3)Span adjustment

Apply voltage with "+" polarity corresponding to the fullscale (1900) to the input terminals and turn the span adjusument VR to display 1900. Next apply Voltage With "- "polarity to check that the display shows -1900±(0.1% of rdg +1digit)

6. WARRANTY

This meter is warranted for a period of one year from date of delivery. Any defect which occurs in this period and is undoubtedly caused by Watanabe Electric Industry faults will be remedied free of charge.

This warranty dose not apply to the meter showing abuse or damage which has been altered or repaired by others except as authorized by Watanabe Electric Industry.

7.AFTER-SALE DERVICE

This meter is delivered after being manufactured, tested inspected under strict quality control.

However, if any problem does occur, contact your nearest Watanabe Electric Industry sales agent or Watanabe Electric Industry directly giving as much information on problem as possible.

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WATANABE ELECTRIC INDUSTRY CO., LTD.

6-16-19, Jingumae, Shibuya-ku, Tokyo 150-0001, Japan Phone: (81)3-3400-6141

Homepage http://www.watanabe-electric.co.jp/en/