

User's Manual

Model DP90-BN1 Hybrid Anemometer

Hiyoshi

Hiyoshi Electric Manufacturing Co.Ltd.

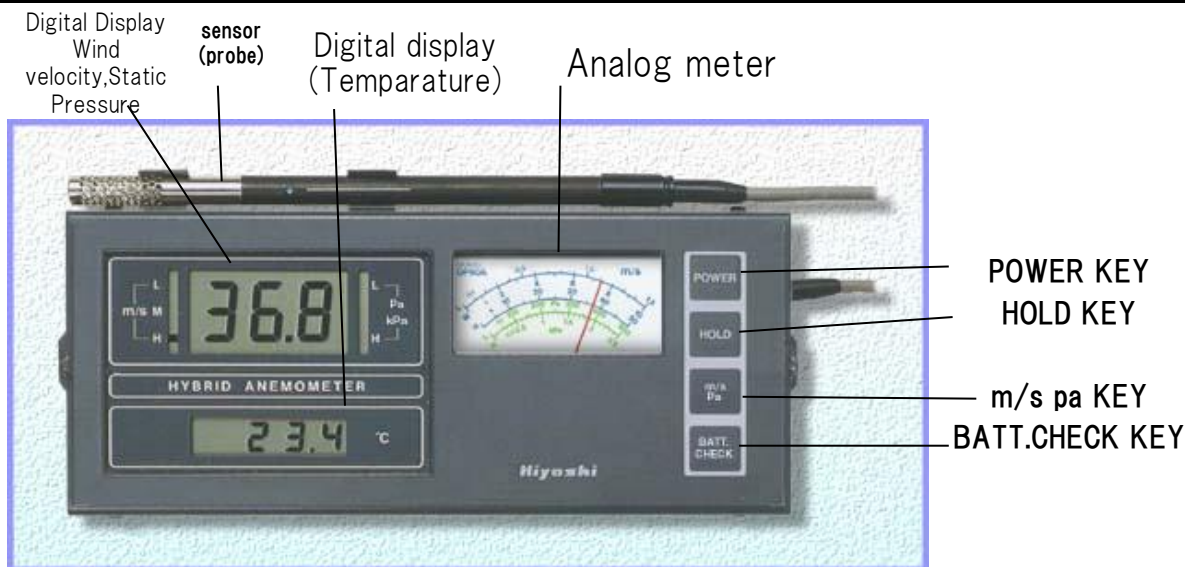
5th Edition

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1-1 Meter Description



DP90-BN1

1. Digital Display (Wind velocity, Static pressure)
2. Digital Display (Temperature)
3. Analog Display
4. Key pad (See Below)

Power : Press to Turn the Meter on or off.

HOLE : Press to Freeze the currently measured value.

m/s pa : Press to Select the Wind velocity or Static pressure.

Batt.check: Press to check the current Battery level.

5. **Sensor :** Place the sensor in the area to be measured.

6. Battery Compartment are located on the back of the meter.

2-1 Introduction

Congratulations on your purchase of Hiyoshi's Hybrid-Anemometer. This meter measures and displays Wind Velocity, Static Pressure and Temperature. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

2-2 Warranty

Hiyoshi Electric Manufacturing co., Ltd warrants this instrument to be free of defects in parts for one year from date of shipment. If it should become necessary to return the instrument for service during the warranty period, contact the Customer Support at support@hiyoshidenki.co.jp. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper operation outside of specification, improper maintenance or repair, or unauthorized modification.

2-3 General Specifications

Display	Combined Analog, Digital Display
Units of measure	Wind velocity m/s (meters per second)
Static Pressure	pa, kpa (pascal, kilopascal)
Temperature	C° (celsius)
Output	Linear output, applicable in wind velocity, static pressure 0~1VDC. Wind velocity 0~50m/s
Pressure	0~±5.00kpa
Data hold	Holds the currently Measure value when pressed during measure (only digital display)
Operating Temp	-10~80 C°
Operating Humidity	65±20% RH
Environmental Condition	1013 hPa Clean Air
Power Supply	6V battery
Weight	Approx. 1.5kg
Dimensions Meter	(210 x 90 x 67mm);
Anemometer Probe	Diameter x 9.5" (177mm)
Accessories	Extendable Antenna, Shoulder Bag, Static Adapter, User's Manual, Test Data

2-4 Range specification :

2-4.1 Velocity

Measurement	Range	Resolution	Accuracy (% of span)
m/s (meter/second)	0.1-1.5m/s	(0.01)	± (5%)
m/s (meter/second)	1-10 m/s	(0.1)	± (5%)
m/s (meter/second)	5-50 m/s	(0.1)	± (5%)

2-4.2 Temperature

Range	Resolution	Accuracy (% of span)
-10°C to 100°C	0.1%	± 1.0

2-4.3 Static Pressure

Range	Resolution	Accuracy (% of span)
± 100Pa to ± 999pa	(1)	± 5%
± 0.60kpa to ± 5.00 kpa	(1)	± 5%

3-1 MEASURING PREPARATION

The pointer of the analog meter should always be at the lower end (left end) of the scale before power on.

Press the POWER button to turn the instrument on .

Press the POWER button to display the model name (90A,90B,90C) and Battery indicator (b0-b9)

3-2 Wind velocity Measurement

Taking Measurements

Remove the probe from the clip, hold the probe by the handle in the area to be measured.

Directivity point of the probe towards the windward exactly.

The tip of the probe will detect the wind velocity. Press the POWER button to turn the Instrument on, The "L" range is selected to measure the wind velocity.

The Automatic range-switching function operates from "L" to "M" or "H" when a wind velocity corresponding to the "M" or "H" range is detected.

The wind velocity is reading on Large LCD display , Analog meter simultaneously and lower LCD sub-display shows the temperature reading.

*Use Analog meter reading in case of severe fluctuations.

*The measuring function display is blinking during the "HOLD"

3-3 Static pressure Measurement

Press the POWER button to turn the Instrument on, Select the "m/s Pa" button to measure the Static pressure and confirm indication of "Pa or kpa" on the measuring function display then the static pressure will be displayed on the digital display , analog meter simultaneously and lower LCD sub-display shows the temperature reading .

Static pressure adapter:

Slightly loosen the unit of the accessory static pressure adapter ,insert the probe as far as possible , align the rear fitting of the probe and the white line on the static pressure adapter, and tighten the nut. Place the orifice in the center of the rubber plate of the adapter on to the location where the pressure is to be measured. For Example :A hole with diameter of about 10mm in a duct.

Positive pressure can be measured with the orifice at the head of the probe, while negative can be measured with the orifice at the side.

The same number as the detection unit is attached to the adapter static pressure.

The measured values can not be guaranteed when used in combination with those other numbers.

Please use the same number of means be measured with the orifice at the side.

3-4 Measuring at height

Use the accessory probe holder for measuring near the ceiling and at other high locations (free retraction and extension between 0.2 and 1m).

3-5 Battery Replacement

If the Digital Display does not switch on when the POWER button is pressed or when BATT.CHECK button is pressed the display shows "B0" ,Replace the batteries

1. Remove the battery compartment.
 2. Replace the 4 "AA" 1.5V batteries observing polarity
- * **If the meter will not be used for long time, remove the batteries**

3-6 PROBE EXCHANGE

If the probe should become damaged, Please contact the nearest sales office or Hiyoshi Electric company .to buy a new one .

*The measuring values can not be guaranteed when a probe of a different model is used.

4-1 Maintenance and Caution

- 1 The probe should never be exposed to temperatures of 100°C or more.
2. In case of "Out of Range"

	Wind Velocity	Temperature	Static Pressure
Under Range	-----	Blinking Values and dots "....."	
Over Range		Blinking Values	

3. **Output :0-1VDC/0-50m/s 0-5.00kpa**
4. As measuring errors will be caused by clogging of the hole or the net at the tip of the probe,they should be cleaned from time to time with a soft hair brush or by washing with alcohol,bezine,etc.
5. The digital display shows strange characters sometimes instanneously .It is no problem for LCD'S character.
6. Auto switch off : 20 min.after last key press .

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