SEFRAM 9862

Hot Wire Anemometer

$C \in$

Instruction Manual

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CONTENTS

1. GENERAL DESCRIPTION

Thank you for choosing our Hot Wire Anemometer. To ensure the safety and the best performance of this instrument, we recommend you to read and follow the manual carefully before operation.

2. SAFETY INFORMATION

Read the following safety information carefully before attempting to operate or service the meter. Use the meter only as specified in this manual; otherwise, the protection provided by the meter may be impaired.

❉ ❉ DANGER❉ ❉

The meter is not designed for use in gas mixtures other than air. **DO NOT** use the unit with corrosive or other dangerous or explosive gas mixtures.

ENVIRONMENT CONDITIONS
- Altitude up to 2000 meters
- Relatively humidity: 90% max
- Operation ambient temperature: 0°C to 50°C

MAINTENANCE & CLEARING
- Repairs or servicing not covered in this manual should only be performed by qualified personnel.
- Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on this instrument.

SAFETY SYMBOLS

$C \in$ Comply with EMC

When servicing, use only specified replacement parts.

3. APPLICATION
- Measuring volumetric flow rates or flow velocities in ducts
- Measuring the temperature and humidity of flows
- HVAC system performance

4. FEATURES
- Fast response.
- Telescoping hot wire probe.
- Air flow measure: CMM、CFM.
- Air velocity measurement:
  m/s, km/hr, ft/min, MPH, Knots & build in temperature ºC / ºF, humidity RH.
- Large LCD display with backlight.
- Min/Max/Avg & 2/3Vmax function.
- Data Hold function.
- With USB interface supply power.

- Battery Life indicator.

- Adjustable auto power off timer.
- Air velocity compensation in atmospheric pressure.
- Tilt Stand.

5. SPECIFICATIONS

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Velocity Probe Range:	0 to 30 m/s(0 to 6000 ft/min)
	0 to 999900 m^3/min(ft^3/min)
	-20 ºC ~60 ºC (-4 ºF ~140 ºC)
	0~100%RH
Resolution:	0.01 m/s(1 ft/min)
	0.001 m^3/min(ft^3/min)
	0.1 ºC /ºF
	0.1%RH
Accuracy:	(at 23 ºC ± 5 ºC <80%RH)
	±3% of reading ± 1%FS (0 to 20 m/s)
	±5% of reading ± 1%FS (20 to 30 m/s)
	±0.8 ºC (±1.5 ºF)
	±3.5%RH at (20% ~ 80%RH)
	±5%RH at (0% ~ 100%RH)
Warm Up Time:	5 seconds
Sample Rate	2 time per second
Battery:	9V Alkaline battery
USB Power Adapter:	DC 5V 0.5A
Battery Lifetime	Approx. 10 hours (alkaline battery)
Operation Temperature	
Meter / Probe :	0°C to 50°C (32°F to 122°F) / -20°C to 60°C (-4°F to 140°F)
Operation Humidity:	10 to 90%RH (no condensing)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Storage Humidity:	10 to 75%RH
Dimensions:	Meter:
	185mm(L) × 65mm(W) × 36mm(H) /
	7.28 inches(L) × 2.56 inches(W) × 1.41 inches(H)
	Wire length: 185 cm
	Probe length: 87 cm
	Probe diameter of tip: 9.0 mm
	Probe diameter of base:16.0 mm
Weight:	Approx.412 g(included battery and probe)

Standard Accessories :   Instruction manual, battery 9V Alkaline x 1 pcs, carrying case.

6. SYMBOL DEFINITION & BUTTON LOCATION
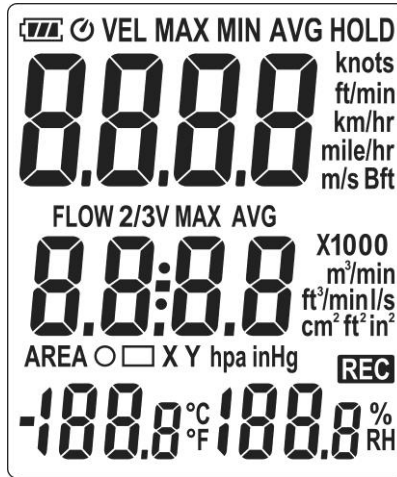
	: Battery condition indicator
VEL	: Air velocity indicator
MIN	: Air velocity Minimum indicator
MAX	: Air velocity Maximum indicator
AVG	: Air velocity Average indicator
⏼	: Auto Power Off enabled indicator
8.8.8.8	: Air velocity reading
knots ft/min km/hr mile/hr m/s Bft	: Air velocity measurement units
FLOW	: Air flow indicator
MAX	: Air flow Maximum indicator
2/3V MAX	: Air flow 2/3V Maximum indication
AVG	: Air flow Average indicator
8.8.8.8	: Air flow reading

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X10	: Multiply reading by ten
X100	: Multiply reading by one hundred
X1000	: Multiply reading by one thousand
m³/min ft³/min l/s	: Air flow measurement units
cm² ft² in²	: Area setting units
AREA	: Duct Area indication
○	: Round Duct diameter dimension indication
☐ X Y	: Rectangle Duct X and Y dimension indication
hpa inHg	: Pressure indication
-188.8	: Temperature reading
°C °F	: Temperature measurement units
188.8	: Relative Humidity reading
% RH	: Relative Humidity measurement units
HOLD	: Data hold indication
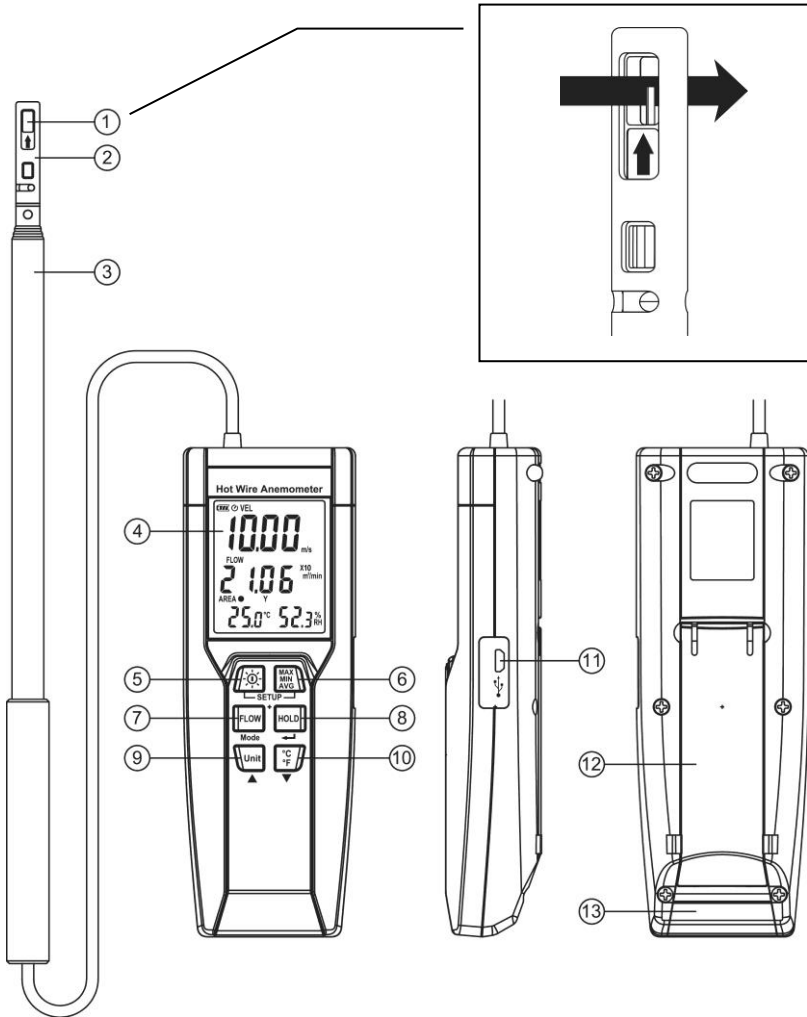
- ,1 Sensor Probe (Measurement direction)
- ,2 Protective Shutter
- ,3 Telescoping Probe
- ,4 Display Screen
- ,5 Power ON/OFF and Back Light Button
- ,6 MAX MIN AVG Button
- ,7 FLOW MAX 2/3VMAX AVG Button
- ,8 DATA HOLD Button
- ,9 Unit Button
- ,10 °C/°F Button
- ,11 Power Source Interface(micro USB type)
- ,12 Tilt Stand
- ,13 Battery Compartment

7. BUTTON INSTRUCTIONS

7.1 Power ON/OFF/ Backlight Button:

Press the ☼ button to turn on the meter and then press the ☼ to turn on the LD backlight. Press ☼ again to turn off backlight. This makes it easier to read in dark environment. The backlight will be automatically turned off after 30 seconds to save battery power. Press and hold ☼ button for 3 seconds to turn off. There is a 5 second count down as the meter warms up.

7.2 Data-Hold Button :

Press HOLD button to freeze the data shown on the LCD screen. Press it again to exit Data-Hold mode.

Note: When the unit is in the Data-Hold mode, MAX/MIN/AVG / FLOW / Unit / °C/°F buttons are disabled.

7.3 MAX/MIN/AVG Button:

Under this mode, the unit simultaneously monitors and stores the maximum, minimum and average value in the memory. The unit will keep updating/refreshing the data.

To start:

(1) Press MAX/MIN/AVG button. " **MAX** " symbol lights up on LCD, the reading shows the maximum data.

(2) Press MAX/MIN/AVG button again to show minimum data; the " **MIN** " symbol lights up on LCD.

(3) Press MAX/MIN/AVG button again to show average data; the " **AVG** " symbol lights up on LCD.

(4) Press MAX/MIN/AVG button again, the " **MAX**, **MIN** and **AVG** " symbol blinks together, the readings shows real time data.

To exit MAX/MIN/AVG mode:

Press and hold MAX/MIN/AVG button for 2 seconds to exit MAX/MIN/AVG mode.

7.4 FLOW Button :

AIR FLOW = (AIR VELOCITY) x (AREA)

Under this mode, the unit simultaneously monitors and stores the maximum, 2/3V maximum and average value in the Air flow. The unit will keep updating/refreshing the data.

To start:

(1) Press FLOW button. " **MAX** " symbol lights up on LCD, the reading shows the maximum data.

(2) Press FLOW button again to show two-third Velocity maximum data; the " **2/3V MAX** " symbol lights up on LCD.

(3) Press FLOW button again to show average data; the " **AVG** " symbol lights up on LCD.

(4) Press FLOW button again, the " **MAX**, **2/3V MAX** and **AVG** " symbol blinks together, the readings shows real time data.

   To exit MAX/2/3V MAX/AVG mode:

Press and hold FLOW button for 2 seconds to exit MAX/2/3VMAX/AVG mode.

7.5 Unit Button:

Press Unit to select the desired unit of air velocity.

7.6 °C/°F Button:

Press °C/°F to select the desired unit of temperature.

8. OPERATING INSTRUCTIONS

8.1 Setup Options:

(1) Power off the meter and then press the ☼ and MAX MIN AVG button for 3 seconds to enter setup mode. Press ☼ to exit anytime.

(2) Press the FLOW button to enter the setting option.

(3) Press the HOLD button to save changes and move to next setting option.

8.2 Menu Item:

(1)
SEt

Fig.1 Setup mode.

(2)
ArEA
100 cm²
AREA

Fig.2 Set Area.

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(3) Fig.3 Set Round Duct diameter dimension.

(4) Fig.4 Set Rectangle Duct X dimension.

(5) Fig.5 Set Rectangle Duct Y dimension.

(6) Fig.6 Set absolute pressure.

(7) Fig.7 Set auto power off time.

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8.3 Menu Description:

8.3.1 Set Duct Area

There are 3 types : Duct Area (AREA), Round Duct (O), Rectangle Duct (▢),

(1) Press the FLOW button to select the type and then press the HOLD button to confirm your choice.

(2) If duct area is chosen, the " **AREA** " symbol will displayed. (Fig.2)

Press the Unit or °C/°F button to set the size from 1 cm2 to 40 m2 (0.001 to 430.0 ft2).

Press the HOLD button to store the value.

If round duct is chosen, the (O) symbol will displayed. (Fig.3)

Press the Unit or °C/°F button to set the size (diameter) from 1 to 635 cm (0.4 to 250 in).

Press the HOLD button to store the value.

If rectangle duct is chosen, the " ▢ **X** " symbol will displayed. (Fig.4)

Press the Unit or °C/°F button to set the size of the duct ,then press the HOLD button to store the value and advance to the next dimension, the " ▢ **Y** " symbol will displayed.

Press the Unit or °C/°F button to set the size of the duct.

Press the HOLD button to store the value.

8.3.2 Set Absolute pressure

Press the Unit or °C/°F button to set absolute pressure from 100 to 2000 HPA (59 to 2.95 inHg) and then press the HOLD button to store the value.

8.3.3 Set auto power off time:

(1) Press the Unit or °C/°F button to select auto power off option 10, 30 minutes, 1, 2, 4, 8 hours, or off. (see Fig.8 or Fig.9)

Fig.8   Fig.9

9. MEASURING PROCEDURE

9.1 Extending the Probe

Open the protective shutter and then extend the probe. Do not hold the cable while extending the probe.

9.2 Using the telescoping Probe

Put the probe in the right position and make sure that the sensor window is fully exposed and is facing upstream

✳ If in the right direction, the user will see the white-arrow marking as following figure
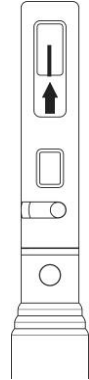
10. POWER PREPARATION

10.1 Battery Replacement:

(1) When the battery voltage drops below proper operation range, the ⊏⎯⎯⊐ symbol will blink on the LCD display and the battery needs to be replaced.

(2) Before replacing the battery, power off the meter.

Open the cover of the battery cabinet. Replace the old batteries with new 9V alkaline battery (Carbon-zinc batteries are not recommended).

(3) Close the battery cabinet cover.

9V Alkaline Battery X 1pc
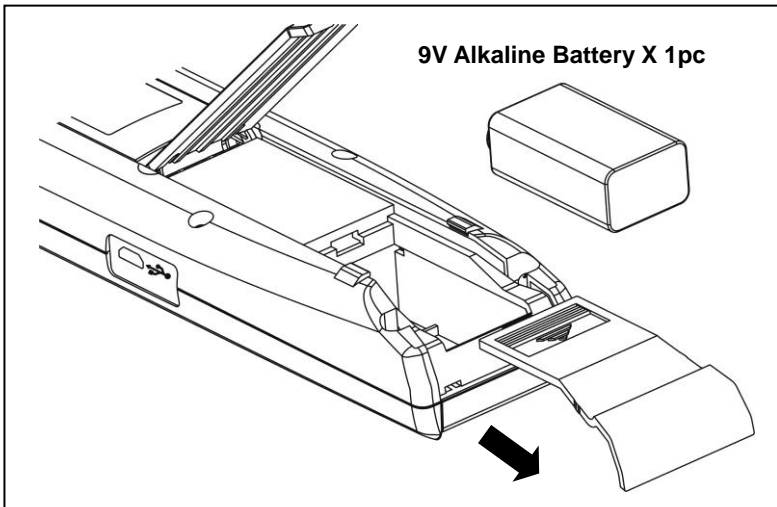
10.2 AC Adapter Connection:

When the AC adapter is used, insert the plugs of the adapter into the USB connector on the side panel.

Note:

When the AC adapter is connected while battery is inserted, the unit will be powered from the adapter (the AC adapter has priority).

11. Maintenance

Clean the device and the window of the display with a clean, lint-free, antistatic and dry cleaning cloth.

⚠ *Do no use cleaning agents that contain carbon or benzenes, alcohol or anything similar to clean the product since these substances damage the surface of the measuring instrument. Moreover, these fumes are hazardous to health and explosive. Do not use tools with sharp edges, screwdrivers, metal brushes or anything similar to clean the device.*