REAL TIME MODE (MPH)
REAL TIME MODE (Km/h)
REAL TIME MODE (m/s)
REAL TIME MODE
MAIN MENU
REAL TIME MODE (°C)
MAXIMUM DISPLAY MODE
WIRELESS TRANSMITTER UNIT ID DISPLAY MODE
MINIMUM DISPLAY MODE
TRANSMISSION INTERVAL DISPLAY MODE
VOLUME AIR FLOW MODE
WIRELESS RADIO DISPLAY MODE
HIGH ALARM DISPLAY MODE
AUTO POWER SHUT OFF DISPLAY MODE
LOW ALARM DISPLAY MODE
ATMOSPHERIC PRESSURE DISPLAY MODE
DISPLAY RESPONSE TIME MODE
CROSS SECTIONAL AREA DISPLAY MODE

Display Function Flow Chart

PC Interface

The HHF1000 series comes with a Windows based user application. This application runs on Windows XP, Vista, and 7.

Operation

• Install the user application.
• Connect the USB cable provided between the HHF1000 and the PC. For wireless version, make sure the radio is turned off.
• When the HHF1000 is connected to the PC for the first time, the PC recognizes the unit and it looks for the USB drivers. The necessary drivers are on the same CD.
• The "found new hardware wizard" program will open. Select " Install from the specific location" option and select the program CD where the drivers are located.
• You are now ready to run the application. When the application is run, it establishes communication with the HHF1000 meter, and a "Go" button will show up on the Main window. Clicking the "Go" button will start the data logging session.

Wireless PC Communications

The HHF1000 offers wireless PC communication on some of its models (HHF1001x-W). The unit has a built-in wireless module and it can transmit air velocity and air temperature in real time to our UWTC-REC1 wireless receiver. The UWTC-REC1 then sends the incoming data to the PC. You can monitor and log the data from the TC central software application. Refer to Section 5 of the User's Guide for complete and detailed information.

HHF1000 SERIES
Handheld Air Velocity/Temperature Meter With Wireless PC Communication Option

ΩΕ OMEGA®

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Using This Quick Start Manual

Use this Quick Start Manual with your HHF1000 series handheld air velocity/temperature meter for quick installation and basic operation. For detailed information, refer to the User's Guide (Manual Number M4979).

General Information

The HFF1000 series handheld air velocity/temperature meter measures and displays air velocity mass flow and air temperature of clean air flows in ducts & pipes, while producing very little pressure drop in the flow stream. The sensor design is based on three RTD elements, one measures the air temperature and the other two measure the air velocity.

The HHF1000 displays the air velocity in feet per minute (FPM), meter per second (m/s), miles per hour (MPH), and kilometer per hour (Km/h). The air temperature is displayed in °F & °C. The volume air flow is displayed in Cubic Feet per minute (CFM) and Cubic meter per minute (CMM). The sensor probe is 12" long as standard. The 304 Stainless steel sensor tubing is provided with inch marks for ease of insertion depths. The sensor probe comes in two different versions as follows:
• Fixed 12 inches long Probe
• Telescopic probe adjustable from 10 to 36 inches. The unit powers from a 9V battery or a 9Vdc adapter.

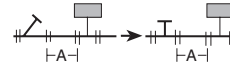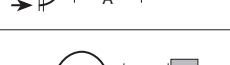| Model No.	Velocity Range FPM(m/s)	Description
HHF1001A	0 to 5000 (0 to 25.4)	Air velocity/temperature meter, Fixed probe
HHF1001R	0 to 5000 (0 to 25.4)	Air velocity/temp meter with remote Telescopic Probe
HHF1001A-W	0 to 5000 (0 to 25.4)	Air velocity/temp meter,fixed probe & wireless
HHF1001R-W	0 to 5000 (0 to 25.4)	Air velocity/temp meter, telescopic probe & wireless

NOTE: ▼

The HHF1000 series air velocity/temperature meter is not explosion proof, nor is it intrensically safe. Do not use for flammable or hazardous gases, or in hazardous areas.

The HHF1000 series air velocity/temperature meter is intended for use with clean air or Nitrogen ONLY. Do not use with other gases, as it will produce an un-calibrated and non-linear display measurement. In addition, air carrying dust or oil (such as found in blow/compressor systems that utilize oil) can lead to coating of the sensor and thus inaccurate readings.

The HHF1000 is a bi-directional device, meaning the air flow in the forward or reverse direction provides the same readings.

Installation

1. Install the 9V battery in the battery compartment of the case. You can remove the battery door to get to the compartment.

2. Remove the protective cap from the sensor tip.

3. Run a length of straight pipe before and after the flow sensor probe. The amount of upstream straight pipe required depends on the type of obstruction which is immediately upstream of the flow sensor. Downstream of the flow sensor, in all situations, run 5 diameters of straight pipe regardless of the downstream obstruction.
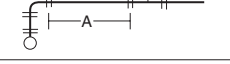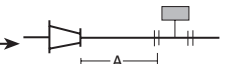
4. Align the sensor probe with the air flow. Make sure the air flow is perpendicular to the sensor windows. The score line on the sensor tubing is another way of aligning the sensor to the flow stream. The score line starts from the center of the sensor window and as a result it can be aligned properly.

5. One way of installing the sensor probe into a flow stream is to utilize a compression fitting such as Omega's SSLK-14-14 stainless steel compression fitting with Teflon ferrule, which allows adjustment of the insertion depth of the probe.

6. Turn on the power switch and start measuring air velocity & temperature.

Typical Piping	Recommended Straight Pipe Length "A" Without Vanes	With Vanes	Remarks
All Fittings in Same Plane	15D	15D	Closed Branch
	20D	15D	Elbow. Tee, Branch Pipe
	25D	15D	Elbow, 2 planes
	25D	15D	Long-radius bends
Fittings in Two Planes	30D / 25D	15D / 15D	Elbow Long-radius bends
	40D / 35D	15D / 15D	Elbow Long-radius bends
Varied Section	20D	15D	Contracting Pipe
	40D	20D	Expanding Pipe
Valves	Recommend Meter Be Installed Upstream	Regulating, reducing valves Ball, check valves Shut-off valves

Note: Straight pipe length on the downstram side to be 5 pipe diameters minimum.
Note: D – Pipe internal diameter

Piping Requirement

Main Operation

Changing Display Engineering Units – You can change the air velocity Engineering unit display from feet per minute (FPM) to meter per second (m/s), miles per hour (MPH), and kilometers per hour (Km/h) from the keypad (Press SET key). You can change the temperature display from °F to °C or vice versa by pressing the DOWN key.

Turn On Display Backlight – You can turn the LCD backlight on or off by pressing the UP key. The backlight will turn off after 10 seconds if the UP key is not pressed again.

High & Low Alarm Set Points – You can set and enable the high & low alarm set points for the air velocity as shown in the keypad flow chart. When in the alarm condition, the HAL or LAL icon will flash on the LCD.

Display Volume Air Flow – The unit calculates volume air flow by multiplying the air velocity by the cross sectional area of the pipe or the duct. The cross sectional area can be set in the display menu as shown in the keypad flow chart in square inches units. The volume air flow is shown in cubic feet per minute or cubic meter per minute when air temperature is displayed in Degrees C.

Auto Power Shutoff – You can turn on the auto power shutoff feature (Default is ON) to save battery life. If no keys are pressed for 5 minutes, the unit will shut down to save battery life. Pressing any key will turn the unit back on.

Operation	Press MODE	Press SET	Press °F°C	Press
Real Time	Go to Max Mode	FPM → m/s ↑ ↓ Km/h ← MPH	°F → °C or vice versa	Turn On/off LCD Light
Display Max Vel. & Temp MAX Icon	Go to Min Mode	—	—	Reset Max, Min, Velocity & Temperature
Display Min Vel. & Temp MIN Icon	Go to Volume Air Flow Mode	—	—	Same
Display Vol. Flow In CFM or CMM	Go to High Alarm Mode Velocity	—	—	—
Display High Alarm Velocity Set Point	Go to Low Alarm Mode Velocity	Enable/Disable High Alarm, HAL Icon when enabled	Increment high Alarm Set Point	Decrement high Alarm Set Point
Display Low Alarm Velocity Set Point	Go to Display Response Time Mode	Enable/Disable Low Alarm. LAL Icon When Enabled	Increment Low Alarm Set Point	Decrement Low Alarm Set Point
Display LCD Response time	Go to Cross Sec. Area Mode	—	Increment Response Time	Decrement Response Time
Display Cross Sectional Area Sq In	Go to Atmos. Press. Mode	—	Increment Cross Sec. Area	Decrement Cross Sec. Area
Display AtPr & mmHg Icon	Go to Power Shutoff Mode	—	Increment Atmospheric Pressure	Decrement Atmospheric Pressure
Display Power Shutoff	Go to Real Time Mode OR Go to Radio Mode (Wireless)	Turn On/off	—	—
Display Radio Mode	Go to Time Interval Transmission	Turn On/off	—	—
Display Time Interval Transmission	Go to Transmission Unit ID	—	—	—
Display Transmitter Unit ID	Go to Real Time Mode	—	—	—

Keypad Functional Flow Chart

NOTE: ▼

The HHF1000 air velocity/temperature meter saves the following parameters in the non-volatile memory, so removing the power will not affect these settings: High and Low alarm air velocity set points and status (On or Off), Display Response time in msec, Cross sectional area in Square inches, Atmospheric Pressure in mmHg.