

Universal Verbalizer OMEGASAYS®

Inexpensive, Innovative Measurement Device Announces Readings

The UV1000 Universal Verbalizer from Omega Engineering, Inc. provides an entirely new way for engineers, technicians, and operators to monitor measurement and control information on the plant floor or in the laboratory. This innovative, patented device accepts signals from nearly any measurement or process control instrumentation, performs a signal to speech conversion, and announces the readings in the proper engineering units. It is CE-compliant and manufactured in the USA.



Front Panel View

PATENTED
U.S. patent and patents pending

Fig. 1

connectors for the three input types, and buttons to select the input type, initiate a reading, and adjust the volume. Although designed as a handheld unit, it can be permanently mounted for continuous monitoring in a fixed location using the ac adapter provided. Audio output is from either a built-in speaker or through a standard earphone jack.

An important user-friendly feature of the UV1000 is found in the box. It contains everything needed to get the unit up and running quickly. In addition to an AC adapter, there is a set of AA lithium batteries, good for about 160 hours of operation in the Continuous Talk mode. Other accessories include an RS232 cable for connection to a PC, Verbvaview™ configuration software, and a type K thermocouple with 40" leads. Dig deeper in the box and you will find test leads with alligator clips, an aluminum stand for hands-free operation, and even an earphone for use in noisy (or no-noise-allowed) environments.

The front panel is configured to accept inputs from a 0 to 20 mA current loop, a 0 to 10 Vdc voltage source, or a direct connection to a Type K thermocouple. The internal voice generator then announces the reading value and correct engineering units either on demand by pressing a TALK button or at fixed intervals which can be set in the range of 0 to 120 seconds. An included voice alarm feature will cause the Universal Verbalizer to announce an alert when a high or low alarm limit condition occurs.

The UV1000 can verbalize over 100 types of engineering units in 23 categories. The categories are shown in the sidebar to the right. Announcements provide both a value and the proper unit. English and Spanish speaking models are available now with other languages due in the near future.

UV1000 Unit Categories	
✓	Electrical
✓	Temperature
✓	Humidity
✓	Flow
✓	Length
✓	Area
✓	Volume
✓	Velocity
✓	Acceleration
✓	Weight
✓	Force
✓	Pressure
✓	Vacuum
✓	Energy
✓	Power
✓	Time
✓	Sound
✓	pH
✓	Conductivity
✓	Salinity
✓	Turbidity
✓	Viscosity
✓	Dissolution

Applications

The UV1000 Universal Verbalizer is suitable for a wide range of applications and situations. It can be used as a stand-alone talking meter or co-connected to a standard display for both audible and visual monitoring. Here are some typical examples of when verbalized readings can really come in handy.

- For measurements of engine or engine component temperatures – Make contact readings with a thermocouple or non-contact readings with an infrared sensor. The UV1000 is compatible with both types of sensing devices.
- To monitor tire temperature or pressure during testing sessions – Whatever type of sensor is being used, it can be easily interfaced with the Universal Verbalizer.



Fig. 2

UV1000 Verbalizer announcing the auto race tire temperature using an infrared gun.

- Production line situations in which out-of-range or out-of-limit alerts are important – Back up a standard display with a verbal alert to assure awareness of measurement status. An operator can take his eyes off a display, and still be kept continuously informed.
- For ad hoc measurements using a handheld sensor - Take readings where there is no sensor or probe permanently installed at the location when you need a reading. Instead of having to keep your eyes on a meter or display, you can keep your eyes on the probe location and listen to the readings.
- When a display is remotely located or it is local but inconveniently placed - Connect the UV1000 to an existing sensor and convert it into a talking sensor. It is very handy while doing maintenance or troubleshooting. Instead of having an associate call out the readings, let the UV1000 electronic voice do it.
- Any application where audible readings or spoken alarms would be useful or necessary.

The bottom line: The UV1000 Universal Verbalizer is a powerful and handy monitoring tool that can replace or supplement standard visual displays in many situations.



Fig. 3

The UV1000 is announcing the current input from the OMEGA® model CL123 Multifunction Calibrator.



Fig. 4

The UV1000 verbalizer is announcing the surface temperature of the OMEGA® model CL1600 surface probe calibrator.

Programming

Before use, the UV1000 can be configured with the included VerbaView™ software. As shown below, the screen designs are so logical that this is one of those cases where “even a child could do it.” Simply install the included software on a PC and connect the unit to a serial port (RS-232) with the included cable. Tabbed pages on the computer screen let you select the input type (current, voltage, or thermocouple), set the engineering unit to be annunciated, the input signal range, the output value range, any alarm values, and the annunciation interval. The Verbalizer can announce the settings as each item is programmed, so you can be sure that everything was programmed correctly.

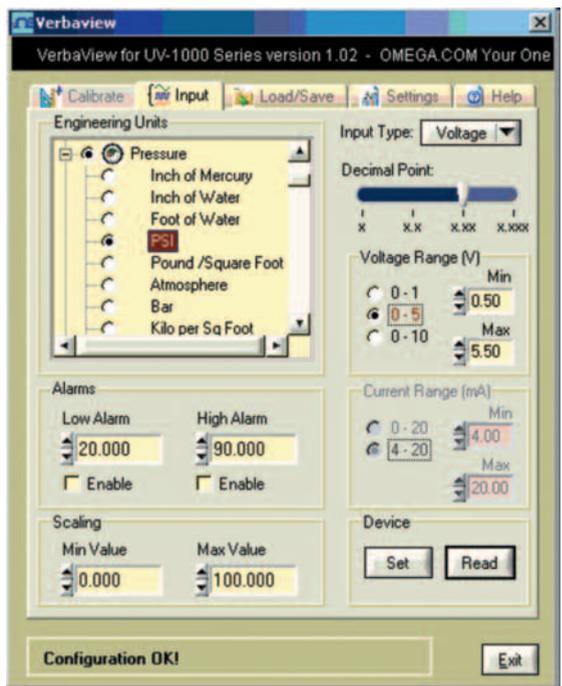


Fig. 5

This screen shot of the VerbaView™ configuration software shows the settings for a 0 to 100 psi pressure sensor with a 0.5 to 5.5 V output range.

The input type is set to **Voltage**.
 The input voltage range is set to **0.50 to 5.50**.
 The scaling, or corresponding pressure range, is set to **0 to 100**.
 The engineering units are set to **PSI**.
 An alarm has been set for a low value of **20** and a high value of **90**.

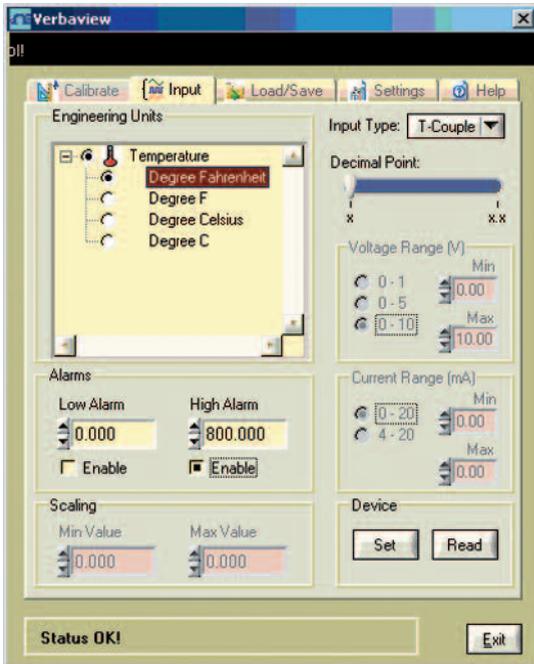


Fig. 6

This screen shows the settings when using the enclosed type K thermocouple or equivalent. In this case, the setup is even simpler since the voltage range and scaling is built in. Just pick the engineering units to be announced and set the high and low alarms, if needed.

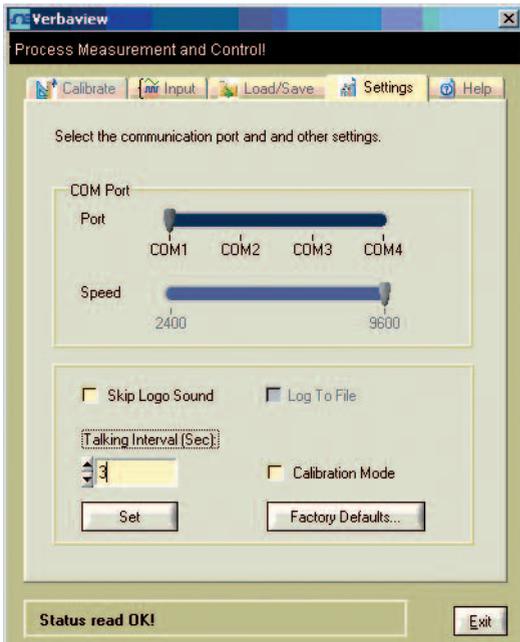


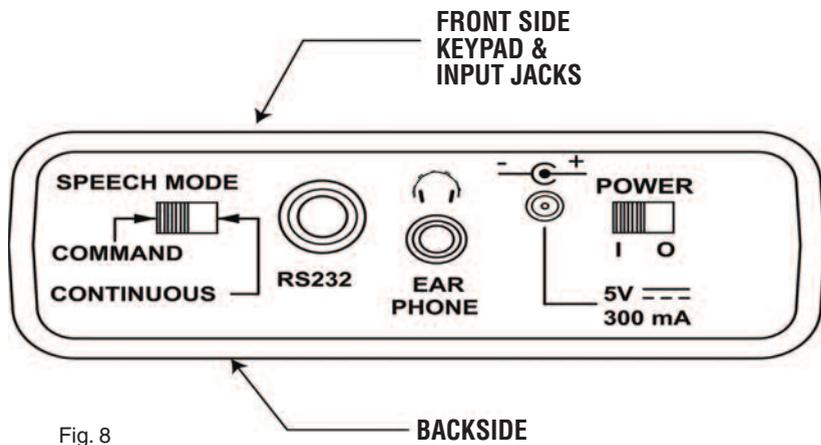
Fig. 7

The Talk Interval setting is found under the Settings tab. As for the COM port settings, the default will work in most cases.

Any number of configuration settings can be saved and reloaded into the UV1000 later, so one unit can be used with many entirely different sensors or with similar sensors having different measurement ranges.

Operation

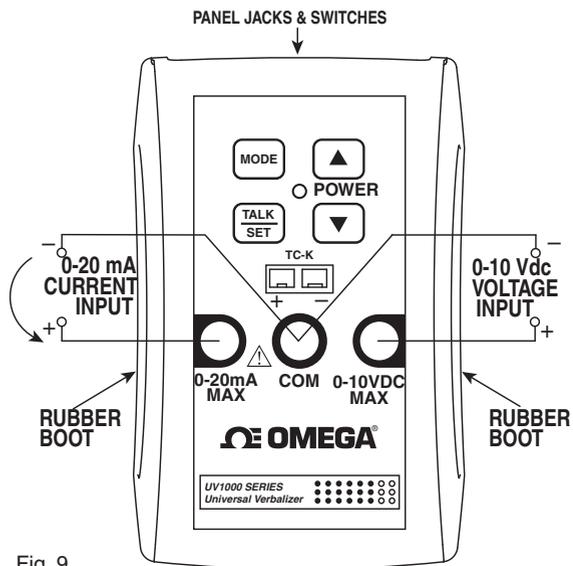
Describing the operation of the UV1000 doesn't take long. The operating controls are so straight forward and intuitive, that after you use the unit for the first time, you will probably relegate the manual to the filing cabinet permanently. Hook up your sensor and then follow the steps below.



On the Top Panel:

1. Turn the unit on.
2. Select the command or continuous speech mode.

Fig. 8



On the Front Panel:

1. Press the MODE button to cycle through the 3 input choices.
2. Press the TALK button or wait for the next interval to hear a reading.
3. Use the Up & Down arrow buttons to adjust the volume.

Fig. 9

Conclusion

You will have the UV1000 Universal Verbalizer up and running within minutes after you open the box. Install the included lithium batteries, hook it up to your computer with the included RS232 cable, install the software and set up your parameters. You are now ready to connect your sensor and start listening to the verbalized readings. Everything you might need is included, except the connection from your instrumentation, and, if you are making a temperature measurement, even that is included in the form of a Type K thermocouple. Best of all, this versatile talking meter lists at a very reasonable \$239 – giving new meaning to the old saying “talk is cheap.”



Fig. 10

Coming Soon!
wireless
Universal Verbalizer.

PATENTED
U.S. patent and patents pending

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