

S | AIRDATA™ MULTIMETER I® | ELECTRONIC MICROMANOMETER

ADM-850L

AIR FLOW • VELOCITY • PRESSURE • TEMPERATURE



ECONOMICAL PRECISION MULTIMETER

The ADM-850L Multimeter offers the **unequaled accuracy** and flexibility of the Shortridge Instruments AirData Multimeters in a **simplified model**, at a reduced cost. This meter may be ordered in the ADM-850L Multimeter kit, complete with accessories for measuring air velocity, pressure, and temperature, or as part of the CFM-850L FlowHood kit.



DIFFERENTIAL PRESSURE MEASUREMENT

The AirData Multimeter measures an extremely wide range of pressures with very high accuracy. Despite its sensitivity, this meter can endure 20 psi differential pressure with no adverse effects. Although designed for hand-held field use, this meter is as sensitive as some laboratory micromanometers.

ACCURATE TEMPERATURE READINGS

The ADT440 **TemProbe** series is uniquely suited for wet bulb, dry bulb, and water line temperatures. The optional eight-point **AirData MultiTemp** is ideal for efficiency testing of air conditioning units and heat exchangers.

FAST ACCURATE DUCT VELOCITY TRAVERSES

One person can now perform **pitot tube** traverses in half the time previously required by two people. Each reading takes less than ten seconds, with specified accuracy from 50 to 8,000 fpm.

AUTOMATIC ZERO AND RANGE SELECTION

Internal calibration, temperature compensation, range selection and zeroing are fully automatic with each reading. No external adjustments are ever needed.

AIR DENSITY CORRECTED FLOW AND VELOCITY

Air flow and velocity readings are automatically corrected for the density effect of barometric pressure and temperature. Readings are displayed as local density air velocity or flow.

NEW AIR BALANCE ACCURACY

When a capture hood is in place, the air delivery of an outlet is reduced. This backpressure caused flow reduction varies from one outlet or damper setting to another. The 8400 series **FlowHood** represents a major breakthrough in direct air flow measurement at supply and exhaust outlets. The Air Data Multimeter integrates its instant microprocessor calculating power with the unique flaps feature in the FlowHood base. Each air flow reading may be compensated for the backpressure effect of the FlowHood.

OPTIONS

The ADM-850L Multimeter kit includes the meter, carrying case, and accessories for measuring air velocity, differential pressure and temperature.

The series 8400 **FlowHood** kit may be ordered separately for direct air flow measurement.

The ADM-850L meter is also available without accessories as part of the FlowHood model CFM-850L. This model includes the meter, the base metering section, various top sizes and carrying case. The accessories for measuring air velocity, pressure, and temperature may be ordered as needed.



SPECIFICATIONS

AIR VELOCITY: ± 3% of reading ± 7 fpm from 50 to 8000 fpm using standard Series 160 pitot tube (29,000 fpm FS); 50 to 5000 fpm AirFoil.

DIFFERENTIAL PRESSURE: ± 2% of reading ± 0.001 in wc from 0.0500 to 50.00 in wc, (0.0001 to 60 in wc FS); 20 psid safe pressure.

TEMPERATURE: ± 0.5°F accuracy from 32°F to 158°F using ADT440 Series TemProbes (-67°F to 250°F FS); 0.1°F resolution.

AIR FLOW: Accuracy is ± 3% of reading ± 7 cfm from 100 to 2000 cfm; range is 25 to 2500 supply, 25 to 1500 exhaust with 8400 **FlowHood**.

ABSOLUTE PRESSURE: ± 2% of reading ± 0.1 in Hg from 14 to 40 in Hg referenced to vacuum. 60 psia maximum safe pressure.

OPERATIONAL TEMPERATURE LIMITS: 40°F to 140°F.

AIR DENSITY CORRECTION: Local air density correction range is 14 to 40 in Hg and 32°F to 158°F.

POSITION SENSITIVITY: Unaffected by position.

CALIBRATION: Calibration certified NIST traceable.

READOUT: 10 digit, 0.4", high contrast, liquid crystal display.

METER HOUSING: 6.0" x 6.4" x 2.7" high impact ABS. 36 oz.

CONNECTIONS: 1/4" OD slip-on for 3/16" ID soft tubing.

BATTERY LIFE: Up to 3000 readings/charge, 500 recharge cycles.

Shortridge Instruments, Inc.

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S1® AIRDATA™ MULTITEMP MT-440K

MULTIPOINT TEMPERATURE TEST KIT



FAST AND ACCURATE MULTIPOINT TEMPERATURES

The AirData MultiTemp is the ideal solution to the problems encountered in thermal performance testing of air conditioning systems, cooling towers, heat exchangers, and energy recovery systems. The MT-440K MultiTemp may be used with any of the AirData Multimeter and HydroData Multimeter models to measure temperatures at up to eight separate points in rapid sequence.

Speed is essential to accurate analysis of total heat transfer under changing load conditions. Temperatures in many systems are often changing continuously, or the test may be catching the load "on the fly" at less than full load. After the probes have settled in, a full set of eight readings requires about 15 seconds. Additional points may be measured in the same sequence by using more than one MultiTemp switch unit connected in series (piggybacking). Reading and memory entry of 64 temperature points would require about two minutes.

The insertion probes used with the MultiTemp may be used in any liquid or gas compatible with stainless steel. Typical uses include: wet or dry bulb air temperatures; thermometer wells; "Pete's" plugs; or direct immersion.

Some applications include humidity control systems; direct expansion A/C systems; outside air adjustment; hot water heating; chilled water; condenser water; and many other circulating process liquid systems.

The surface probes may be used to measure pipeline surface temperatures when piping systems do not have thermometer wells. These probes may also be used as fast acting air probes.

The ADT443, ADT444, and ADT445 TemProbes have mini-plug connectors for use with the MultiTemp. The ADT442 and ADT446 TemProbes have 3-pin female connectors for use with the AirData Multimeter and HydroData Multimeter. Pin adapters are available to allow any of the TemProbes to be used with either the MultiTemp or the Multimeters.

TEMPERATURE PROBE SPECIFICATIONS

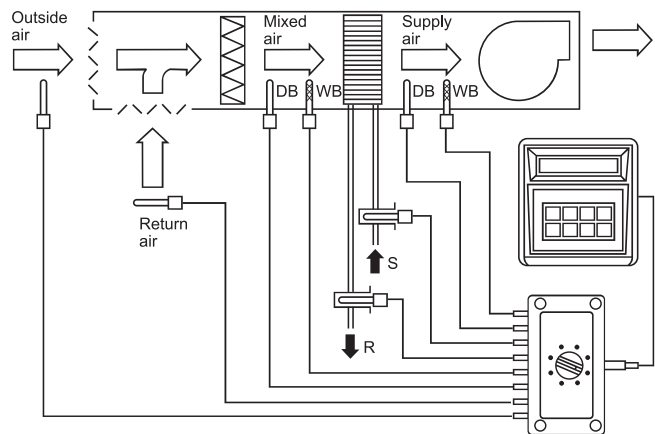
Resolution is 0.1°F.

Operating range of the ADT446 is -20°F to 180°F.

Operating range of all other probes is -67°F to 250°F.

Accuracy is +/- 0.5°F between 32°F and 158°F.

Specifications are subject to change without notice.



Typical A/C system testing application

MULTITEMP KIT AND RELATED PROBES AND ACCESSORIES

MT-440K AirData MultiTemp kit complete with MT-440 eight-position switch unit, six ADT443 insertion probes, two ADT444 surface probes, and padded carrying case.

MT-440 MultiTemp switch unit with eight input jacks (for mini-plugs) and one 3' output cord and plug.

ADT443 Insertion temperature probe, 1/8" diameter x 4" long, with 12' cord and mini-plug

ADT444 Surface temperature probe, 3/16" diameter x 1/8" thick, with 12' cord and mini-plug

ADT445 Insertion temperature probe, 1/8" diameter x 12" long, with 12' cord and mini-plug

XT-445 12' cable extender for ADT443, ADT444, and ADT445 probes

AP446 Adapter plug with 12' cord to connect ADT442 and ADT446 probes to MultiTemp

PA447 Plug adapter with 3' cord to "piggyback" one MultiTemp onto another MultiTemp to expand reading input capacity to 15 or more sensing points.

OPTIONAL PROBES FOR AIRDATA MULTIMETERS THAT MAY BE ADAPTED FOR USE WITH MULTITEMP

ADT442 Insertion temperature probe, 1/8" diameter x 4" long, 3-pin female connector

ADT446 Insertion temperature probe, 1/16" diameter x 4" long, 3-pin female connector

TEW19 Temperature extension wand, 19" long

TRC16 Temperature retractile cord, 1' to 6' long

PA448 Plug adapter allows mini-plug probes to connect to AirData and HydroData Multimeters

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