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Model AT400



User Manual

AT400 User Manual
Rev 1.2
06-Sept-2013
Miltronics Mfg., Inc.
www.miltronics.com
Phone: 1-800-283-1141

Warranty

This product is fully warranted against defective materials and/or workmanship for a period of one year after purchase, provided it was not improperly used. For your protection, please use this product as soon as possible. If returned, it must be securely wrapped, sent prepaid and insured to:

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Notes:

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[1]In order to insure the proper calibration, all custom-length cables for air probes with temperature sensors must be ordered at the time the transmitter is purchased; or the unit must be returned for calibration.

[2]The maximum length for probe cables is 150 ft.; please consult manufacturer if longer cable is required.

[3]Cable grips will seal on round cables from 2.5 to 6.5mm diameter. For wire bundles, if you wish to insure water tightness, use RTV silicon or other sealant safe for electronics at end of cable grip.

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INTRODUCTION

The AT400 and TAT420 air velocity transmitters supply accurate air velocity and (TAT420) temperature data from a building or process airflow on a continuous basis to a computer, chart recorder, printer, and meter or control circuit.
The THT500 provides accurate humidity and temperature data.

Every instrument has terminals for both DC and AC power, and 0-1V, 0-5V and 4-20mA outputs. The outputs are concurrent and can accept multiple wires (depending on the gauge used).

The heavy, all metal (except for the electronics pod) air probes can be used for airstreams that have a wide range of humidity, temperature and contaminants without compromising accuracy.

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SPECIFICATIONS

Sensors:

Air Velocity sensor: Metal rotating vane 1" or 2 ¾"

Range:

Air Velocity: 1" Probe: 300-6890 FPM (1.5-35 MPS)
2 ¾" Probe: 50-7800 FPM (0.2-40 MPS)

Accuracy:

Air Velocity:
2 ¾" Probe: ±1%+1 digit
1" Probe: ±0.5% full scale +0.75% reading + 1 digit

Resolution (optional display):

Air Velocity: 1 FPM or 0.01 MPS

Response Time:

Air Velocity: 2 sec. avg. & update seconds

Analog Outputs (separate and concurrent):

Air Velocity:
0-1V, 0-5V and 4-20mA represent 0-6800FPM (0-35MPS) for the 1" probe and 0-7800FPM (0-40MPS) for the 2 ¾" probe

Operating Range: -4˚ to 176˚F (transmitter)
-22˚ to 212˚F (probe heads)

Power Supplies: 120 or 220VAC, 50-60Hz, also 10-30VDC

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APPENDIX A – No Longer Available

APPENDIX B – Collecting data by means of resident "Hyper-Terminal" program on Win 95, 98, NT4, and Win 2000 PC's

A. Set up Communication Port.
   1) Find and open "HyperTerminal" under "Accessories" and "Communications"
   2) Type a name like "Air Transmitter" and select an icon, then click "OK"
   3) In the "Connect using:" box, select a COM port - probably "COM 1". Click "OK"

B. Set up "COM 1 Properties"
   1) Set "Bits per second:" to "1200"
   2) Set "Data bits:" to "8"
   3) Set "Parity:" to "None"
   4) Set "Stop bits:" to "1"
   5) Set "Flow control:" to "None"
   6) Click "OK", the select "Save"

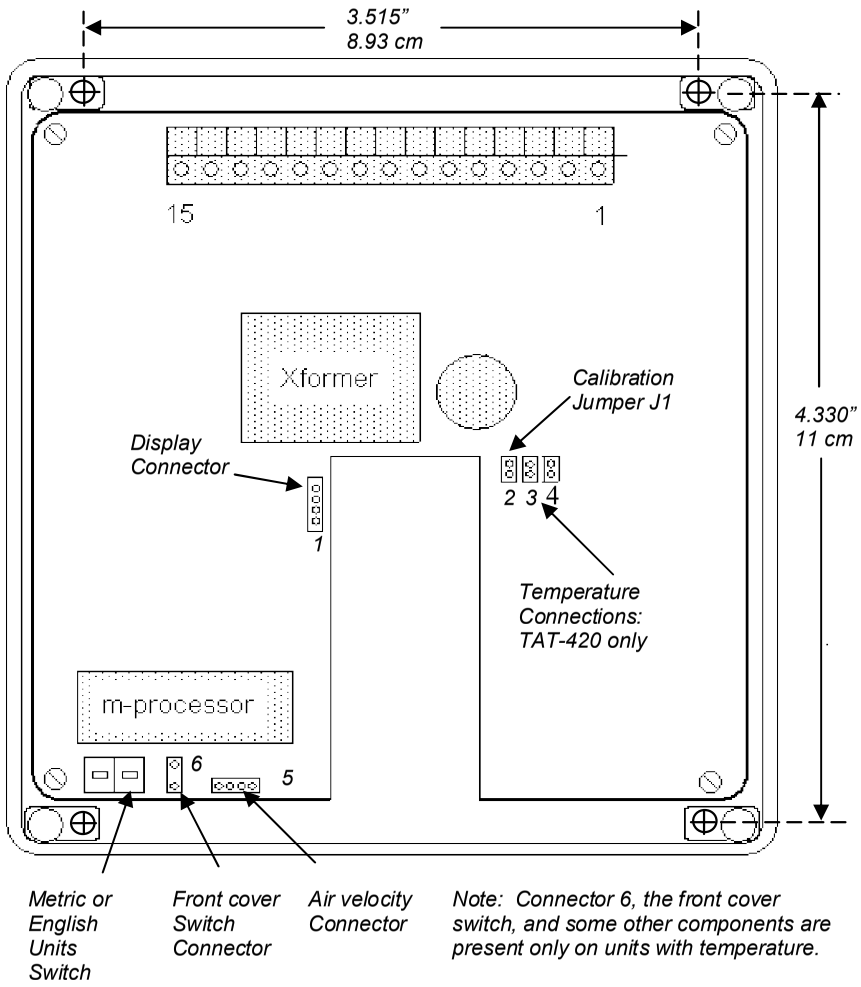
C. Connect cable and transfer data
   1) Connect the RS-232 cable to "COM 1" port
   2) Power up transmitter
   3) Select "Call" from "Call" menu. Data will fill window
   4) To stop, select "Disconnect" from "Call" menu
   5) To save data, select "Save As…" and give file a name

D. To transfer to Excel
   1) Select data file from C5 above and open with "Notepad"
   2) Select data to be transferred and "Copy"
   3) Open a new blank Excel worksheet, select "Paste"
   4) Select entire Column "A". Under "Data" menu, select "Text to columns…" and click "Next"
   5) Follow directions to separate data, then click "Finish"

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Diagram 1: Location and Polarity of Connectors and Switches.



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Input Current (with all options):

10-30VDC:	AT400: 22mA, TAT420: 43mA
110VAC:	AT400: 19mA, TAT420: 21mA
220VAC:	AT400: 10mA, TAT420: 11mA

Output Impedance (0-1V and 0-5V outputs):

1KΩ

Enclosure:

ABS plastic, NEMA Class 4

.

Dimensions:

Housing:	4.8" x 4.8" x 2.2"
Probe:	1" or 2 ¾" diameters

Weight: 18 ounces

Options:

Custom cable lengths:	For probe cables[1, 2]

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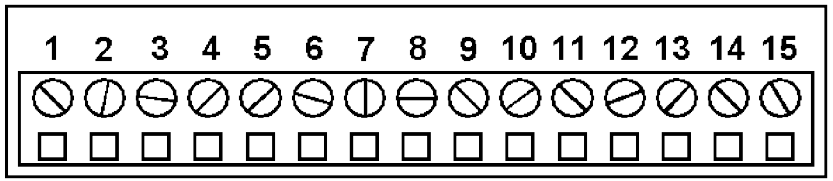
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INSTALLATION AND SETUP FOR AT400, TAT420

Note: Make all connections with Power Off. Remove cover to attach Transmitter to mounting area and to attach power and signal cables. Attach in location free of physical dangers such as excessive heat or continuous condensing moisture.[3]

Note: On the AT400, terminals 1-3 may not be installed. Terminals 13-15 are not installed on any transmitter.

TERMINAL CONNECTIONS



1. 4-20 mA temp
2. 0-1 Volt temp } TAT420
3. 0-5 Volt temp
4. 4-20 mA air velocity
5. 0-5 Volt air velocity
6. 0-1 Volt air velocity
7. Ground
8. V+ (10-30 VDC)
9. 220 VAC
10. 110 VAC
11. 220/110 VAC
12. No Connection
13. No Connection
14. No Connection
15. No Connection

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POWER HOOKUP*

1a) 110VAC power: hook white (neutral) wire into slot 10. Then hook black (hot) wire into slot 11.

1b) 220VAC power: hook either hot wire into slot 11. Then hook the other hot wire into slot 9.

1c) 10-30VDC: first hook ground wire into slot 7. Then hook V+ wire into slot 8.

AIR VELOCITY OUTPUT*

2a) 0-1V F/S output: hook output ground reference to slot 7. Then hook the air velocity output wire to slot 6.

2b) 0-5V F/S output: hook output ground reference to slot 7. Then hook the air velocity output wire to slot 5.

2c) 4-20mA F/S output: hook output ground reference to slot 7. Then hook the air velocity wire to slot 4.

MOUNTING THE PROBE

Mount the probe in the air stream to be measured. A common 3/8” by 16-tpi threaded rod or bolt can be used to mount the probe to a fixture. Connect the air probe to the AT400 unit via the connector on the top of the case.

METRIC OR ENGLISH UNITS

Shown on the diagram but no longer available

REPLACING COVER

Use care not to damage the seal; if the cover has a display, use proper polarity when reinstalling connectors (see Diagram 1).

DISPLAY SWITCH

Shown on the diagram but no longer available

*NOTE: Be sure to tighten screws above slots when finished.

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