



THWD-10 / THWD-10W
RH Meter
RH Meter with Wireless

Users Manual

- Mode d'emploi
- Bedienungshandbuch
- Manual d'Uso
- Manual de uso



THWD-10

THWD-10W

RH Meter
RH Meter with Wireless

Users Manual

June 2010, Rev.1
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English

Limited Warranty and Limitation of Liability

Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STATUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

Repair

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

In-Warranty Repairs and Replacement – All Countries

Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address below).

Non-Warranty Repairs and Replacement – US and Canada

Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

In USA

Amprobe Test Tools
Everett, WA 98203
Tel: 877-AMPROBE (267-7623)

In Canada

Amprobe Test Tools
Mississauga, ON L4Z 1X9
Tel: 905-890-7600

Non-Warranty Repairs and Replacement – Europe

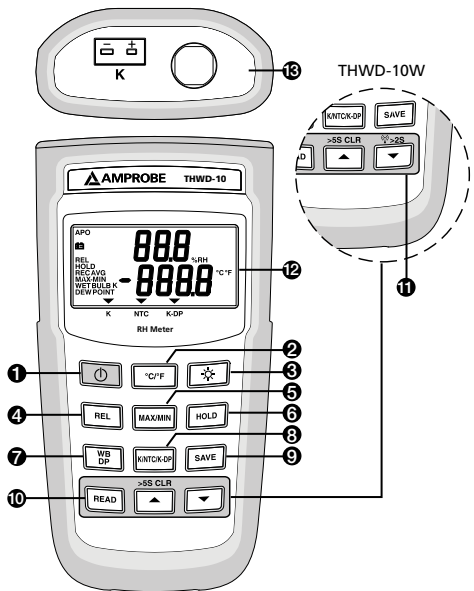
European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you.

European Correspondence Address*

Amprobe® Test Tools Europe
In den Engematten 14
79286 Glottertal, Germany
Tel.: +49 (0) 7684 8009 - 0

*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)

THWD-10/THWD-10W RH Meter



1) "⏻" Power

2) °C /°F

3) "☀️" backlight

4) "REL" Relative

5) "MAX/MIN" Record

6) "HOLD" Data Hold

7) "WB/DP" WB/DP/Ambient temperature

8) "K/NTC/K-DP"

9) "SAVE" data save

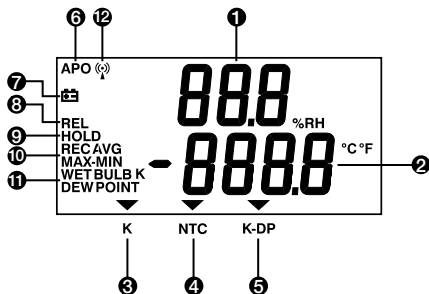
10) "READ" data recall

11) Wireless(THWD-10W)

12) Display

13) Input

Screen Display







- 1) Humidity display
- 2) Temperature display
- 3) K type temperature measurement mode
- 4) NTC temperature measurement mode
- 5) K type temperature minutes Dew point temperature mode
- 6) Automatic power off enabled
- 7) Low battery
- 8) Relative enabled
- 9) HOLD enabled
- 10) Maximum, Minimum, Maximum-Minimum, or average reading displayed
- 11) Wet bulb or dew point temperature displayed
- 12) Wireless function enabled (THWD-10W)

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SYMBOLS

	Caution! Refer to the explanation in this Manual
	Complies with European Directives
	Tested Comply With FCC Standards
	Do not dispose of this clamp meter as unsorted municipal waste.

⚠ WARNING and PRECAUTIONS

- *To avoid electrical shock, do not use this instrument when working voltages at the measurement surface over 24V AC or DC.*
- *To avoid damage or burns, do not make temperature measurement in microwave ovens.*
- *Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.*
- *Do not immerse the hygrometer sensor head into liquids since this causes permanent damage to the sensor.*

Federal Communications Commission

This device THWD-10W complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note

This equipment THWD-10W has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation if this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Wireless Note

Wireless receiver must keep a distance at least 40cm from the meter and meter to meter distance must be at least 30cm.

UNPACKING AND INSPECTION

Your shipping carton should include:

- 1 Meter
- 4 AAA batteries
- 1 Software CD ROM (THWD-10W)
- 1 USB Wireless Antenna (THWD-10W)
- 1 K type thermocouple
- 1 Manual
- 1 Plain white box

If any of the items are damaged or missing, return the complete package to the place of purchase for an exchange.

INTRODUCTION

The instrument hereafter referred to as "**the Meter**" is a battery powered meter that measures relative humidity and temperature. Through a few easy to use controls, the Meter displays three different temperature points of the air surrounding the meter's sensor: ambient, wet bulb, and dew point.

Features

- Wireless two ways transmission. (THWD-10W only)
- Highly stable humidity measurement $\pm 2.5\%$.
- Processing %RH and temperature simultaneously.
- Two in one wide range thermometer and humidity function.
- Wet/Dry bulb, dew point and %RH.
- Easy switching between K/NTC/K-DP.
- Max/Min/AVG/REL/HOLD function.
- APO function.

OPERATING INSTRUCTIONS

"⏻" Power Switch

The "⏻" key turns the thermometer on or off. In the SET mode cannot be powered off. Exit SET mode to power off.

APO function mode

Press "⏻" power key for more than 4 seconds to disable the auto-power function.

The display will show "APO OFF".

"°C/°F" Selecting the Temperature Scale

Readings are displayed in either degrees Celsius(°C) or degrees Fahrenheit(°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the "°C/°F" key.

"☀" Button

Press the "☀" key to trigger on the backlight function, press the "☀" key again to cancel the backlight function. The backlight will switch-off automatically after 30 seconds.

"REL" Button

Press the "REL" key to enter Relative mode, zero the display, and store the displayed Reading as a reference value and annunciator REL is displayed. Press "REL" key again to exit the relative mode. In this mode, press "HOLD" key to stop reading, all values are frozen, press "HOLD" key again to restart reading.

"MAX/MIN" Button

Press "MIN/MAX" key to enter the MIN/MAX recording mode and REC shows on the display. The beeper emits a tone when a new minimum or maximum measurement is recorded. Press "MIN/MAX" key again to cycle through

the current readings:

MAX: The highest measurement recorded.

MIN: The lowest measurement recorded.

MAX-MIN: The difference of the highest and the lowest measurement.

AVG: The average values of the measurements.

Press "**MIN/MAX**" key over two seconds to exit the function. In this mode, press "**HOLD**" key to stop recording, all values are frozen, press "**HOLD**" key again to restart recording. In this mode, the APO function and other keys are disabled, excluding "**HOLD**" and Back-light keys. Press and hold down the "**MAX/MIN**" key for more than 2 seconds to exit the MAX/MIN function.

"HOLD" Button

Press the "**HOLD**" key to enter the data hold mode, the "**HOLD**" annunciator is displayed at the center-left of display. When data hold mode is selected, the meter held the present readings and stops all further measurements. Press the "**HOLD**" key again to cancel data hold mode, causing meter to resume taking measurements.

"WB/DP" Button

In the NTC data Mode, the Meter displays ambient temperature when first turned on. To display wet bulb(WB) temperature, press "**WB/DP**" key once. Press the "**WB/DP**" again to switch to dew point(DP) temperature. Press "**WB/DP**" a third time returns the Meter to ambient temperature.

"K/NTC/K-DP" Button

Press the "**K/NTC/K-DP**" key, the meter can cycle through "**K-TYPE**", "**NTC**", "**KDP**".

*K-DP = K-TYPE temperature minutes Dew point temperature.

"SAVE" Button

The save function stores the %RH, K-TYPE, NTC, Wet bulb, Dew point data in a nonvolatile memory. Press the "SAVE" key to save the current data, the word SAVE is displayed to indicate the data are saved. The build in memory can store up to 256 data.

"READ", "▲", "▼" Button

To recall the readings from memory, press "READ" key. To check the memorized data just to press "▲" or "▼" until the desired memorized data is displayed. To return the meter to normal operation, press "READ" key again.

* CLR SAVE DATA:

Pressing the "▲" key for more than 5 seconds to clears all the saved data in memory. And lower display show "Clr" about 2 second.

Wireless Mode: (THWD-10W)

Press the "☺" key for more than two seconds to start wireless function. Press the "☺" key again for another two seconds to stop wireless function. The wireless mode will shut down if there is no wireless signal for two minutes.

To SET CH/ID to 00,00, press the "▼" key and "⏻" power key for more than 6 seconds with the meter powered down. The meter will set channel and ID to 00,00 status. The second display will show 00, which means that the channel and ID has been set to 00.

To check the channel and ID of the meter

When the meter is off, press "°C/°F" key and "⏻" for 5 seconds, LCD's main display will show channel number, the second display will show ID number.

SPECIFICATION

Electrical

Temperature Scale	Celsius or Fahrenheit user-selectable
Measurement Range	K-Type -50°C to 1000°C, (-50°F to 1832°F)
Resolution	0.1°C or 0.2°F
Accuracy	Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F), for 1 year, not including thermocouple error. ±(0.1% rdg + 1°C) on -50°C to 1000°C ±(0.1% rdg + 2°F) on -50°F to 1832°F ±(0.05% rdg + 1.4°F) -58°F to -328°F
Sensor	Thermistor temperature sensor
Range	0°C to 60°C, (32°F to 140°F)
Resolution	0.1°C/°F
Accuracy	±2°C on 0°C to 10°C ±0.5°C on 10°C to 45°C ±2°C on 45°C to 60°C ±4°F on 32°F to 50°F ±1°F on 50°F to 113°F ±4°F on 113°F to 140°F

Relative Humidity

Sensor	Capacitive Humidity Sensor
Range	0% to 100% RH
Accuracy	±2.5% at 25°C (77°F), 10% to 90% RH ±5% at 25°C (77°F), 0% to 10% RH, 90% to 100% RH

Sensor Response Time for 90% of Total Range	60sec typical.
Sensor Hysteresis (excursion of 10% to 90% to 10% RH)	±1%RH typical
Temperature Coefficient	0.1 times the applicable accuracy specification per °C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 82°F to 122°F).
Input Protection	24V dc or 24V ac rms maximum input Voltage on any combination of input pins.
Input Connector	Accepts standard miniature thermocouple connectors (flat blades spaced 7.9mm, center to center).

Environmental

Ambient Operating Ranges	0°C to 50°C (32°F to 122°F) <80% R.H.
Storage Temperature	-20°C to 60°C (-4°F to 140°F) <70% R.H.

General

Display	5 digit liquid crystal display (LCD).
Overload	"----.-" or "OL" is display..
Reading Rate	1 time per second.

Auto power off	15 minutes, press power key to resume operation.
Battery	4 X 1.5V AAA
Battery Life	200 hours typical with carbon zinc battery.
Dimensions	160mm(H) x 83mm(W) x 38mm(D); 6.3 in (H) x 3.3 in (W) x 1.5 in (D).
Weight	Approx. 230g (0.5lb) including batteries.
Supplied Probe	4 feet type "K" thermocouple bead wire (Teflon tape insulated). Maximum insulation temperature 260°C (500°F). Wire accuracy $\pm 2.2^{\circ}\text{C}$ or $\pm 0.75\%$ of reading (whichever is greater) from 0°C to 800°C (32°F to 1472°F).

Wireless Features

Frequency range 910~920MHz (THWD-10W)

Low current consumption less than 1mA.

The transmitting distance can reach 25M without magnetic interference.

- **EMC**: Conforms to EN61326-1.

This product complies with requirements of the following European Community Directives: 89/ 336/ EEC (Electromagnetic Compatibility) and 73/ 23/ EEC (Low Voltage) as amended by 93/ 68/ EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

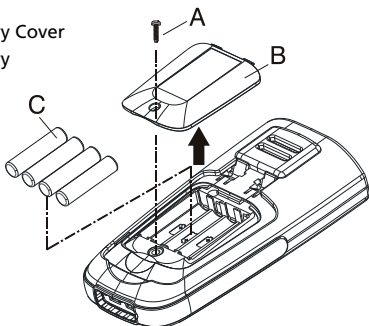
MAINTENANCE AND REPAIR


⚠ WARNING

To avoid possible electrical shock, disconnect the thermocouple connectors from the thermometer before removing the cover.

Installing and Replacing Battery

- A. Screw
- B. Battery Cover
- C. Battery



1. Power is supplied by 4pcs 1.5V (SIZE AAA) UM-4 R03.
2. The " " appears on the LCD display when replacement is needed. To replace battery remove screw from back of meter and lift off the battery cover.
3. Remove the batteries from the battery compartment and replace them with new ones.
4. When not use for long time, remove the battery.
5. Do not store the unit in place with temperature and humidity beyond the recommended storage temperature.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

Visit www.Amprobe.com for

- Catalog
- Application notes
- Product specifications
- User manuals



Please Recycle



**Model TMD,
RTD and THWD**

**Software and
USB / Wireless Driver**

Users Manual

- Mode d'emploi
- Bedienungshandbuch
- Manual d'Uso
- Manual de uso



Model TMD, RTD and THWD Software and USB/Wireless Driver Users Manual

English

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Repair

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Mississauga, ON L4Z 1X9
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European Correspondence Address*

Amprobe® Test Tools Europe
In den Engematten 14
79286 Glottertal, Germany
Tel.: +49 (0) 7684 8009 - 0

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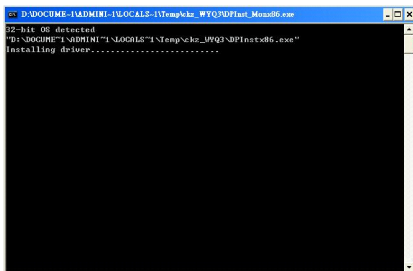
INSTALL USB DRIVER

For WINDOWS 7_VISTA_XP_2000 and USB Driver's Installation

1. Connect meter to PC with USB cable. Following dialogue box will appear automatically. Please select "Install USB [for WINDOWS7_VISTA_XP_2000" to install.



2. Installation



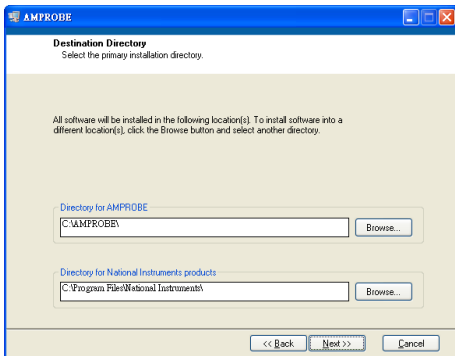
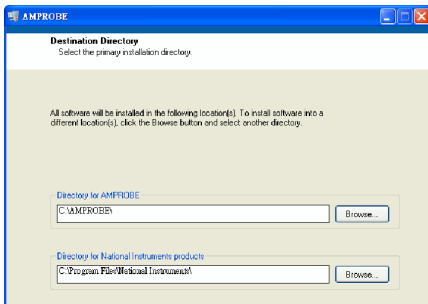
INSTALL PC SOFTWARE

1. Put the disk in the disk drive. Following dialogue box will appear automatically. Please execute the "autorun.exe" if it does not appear.



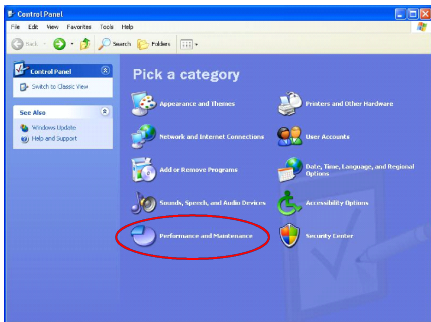
2. Button explanations

- **Single Meter [Wireless & Line]** : Install pc software for Single Meter.
- **Multi Meter [Wireless & Line]** : Install pc software for Multi Meter.
- **INSTALL USB driver (for WINDOWS 7_ VISTA_ XP_2000)**: Please refer to the METER and USB DRIVER'S
- **Instruction Manual**: Operation instruction manual.
- **EXIT**: Exit install program.
- Single / Multi Meter installation window.

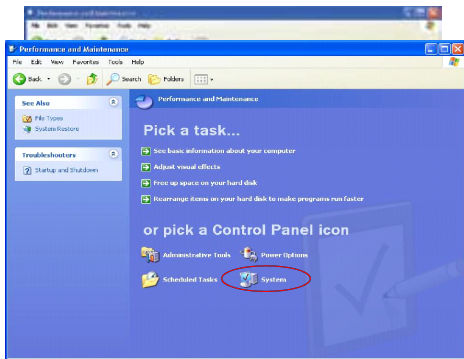


CHECK COMPORT

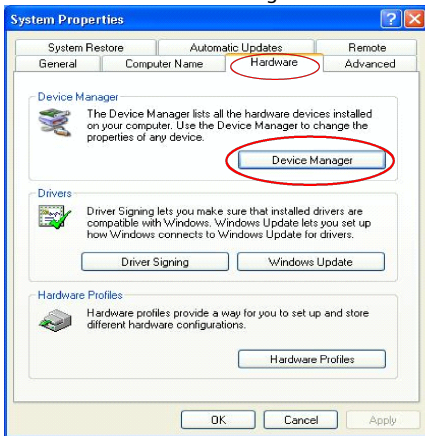
1. Start→Control Panel→Performance and Maintenance



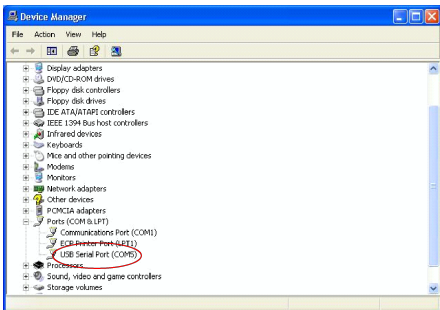
2. Select "System"



3. Select "Hardware" → Device Manager

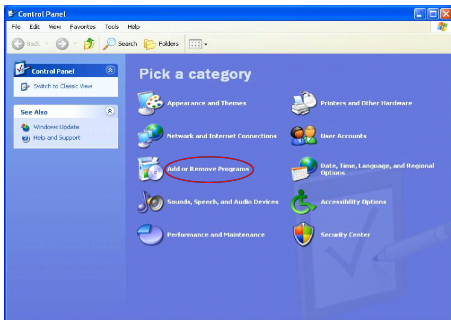


4. In this window, you see the number of the port selected by system auto manically. You can change it. Please write down the port number, it will be needed for manual connection.

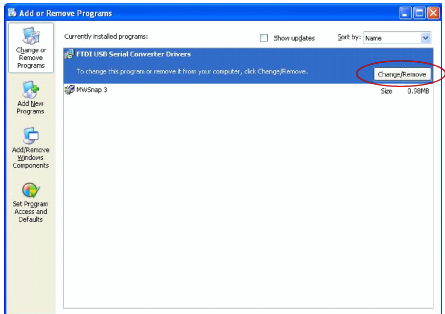


UNINSTALLATION OF USB DRIVER

1. Start→Setting→Control Panel→Add or Remove Programs→Change/Remove



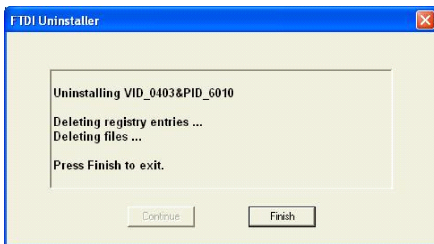
2. Select "FTDI USB Serial Converter Drivers"→Change/Remove



3. Click "Continue"



4. Click "Finish"

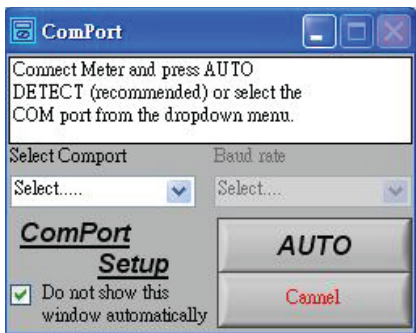


DESCRIPTION OF "SINGLE METER" PC SOFTWARE

1. Following window comes up automatically after PC software turn on.

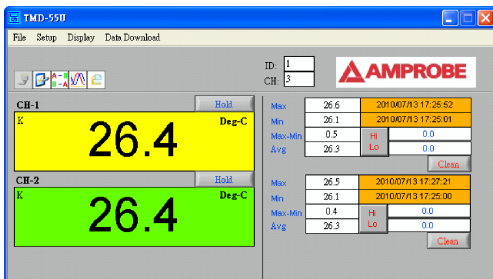


2. For first time use following communication port setup dialog box. Comes up automatically



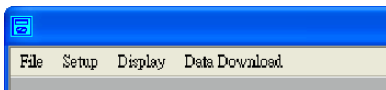
3. For communication port setup please refer to 6.1.

4. After finishing communication port setup following Main display window comes up.



Model number shown at up-left corner varies according to meter.

5. Explanations of comments



5.1 File

About Display manufacturer information.
Exit Exit program.

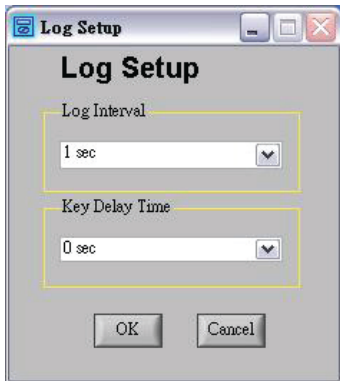
5.2 Setup

Options: Environment selection settings
(please refer to 6.2)

Communication port Check Search/
Settings/Connection/Showing the
current Communication port used.

Log Setup: a) **Log Interval:** Meter Log Interval
setup. (Default 1sec)

b) **Key Delay Time:** Key delay time setup. (Default 0sec)



User Linear User Linear operation

5.3 Display

Graphic: a) View real time reading and curves.
b) Window setup refer to 6.4.

Relative: Set and display the difference between two channels.

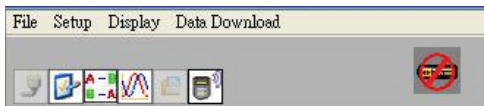


Received Signal strength indication. Only available for meters with wireless function.

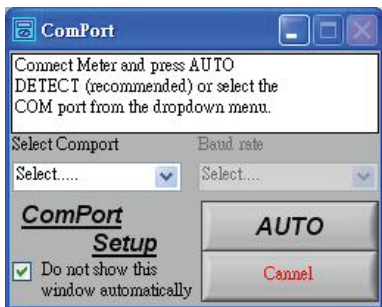
5.4 Data Download

Download the saved data from the meter.
(Only for save/data log function mode)


6. Explanations of Toolbar



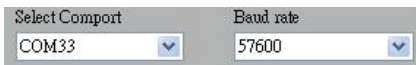
6.1 Communication port setup dialog box



Auto connection

 : Click the button let system select communication port automatically.

Manual connection

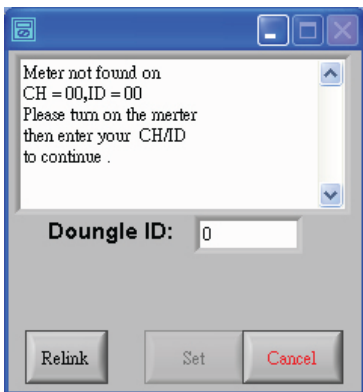


Select communication port and baud rate manually. (Wireless mode, please select 57600 bps, USB mode, please refer to operation manual).




After click on **“Do not show this window automatically”** it will not bring up the dialog box automatically. It will only function when you call from the Setup.

For first use, after communication port setting following dialogue box comes up.

Set meter ID and CH (Only for wireless models)



- a) When message **“Meter is found on CH=00, ID=00”** is shown in dialogue box Click **“Set”** to connect
- b) When message **“Meter not found on CH=00, D=00”** is shown in dialogue box, please reset ID and CH as following:
 - Turn off the meter.

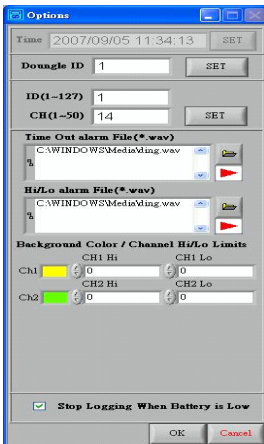
- Press and hold wireless starting key ( >2S) and press power "on/off " key () for longer than five seconds. Display will shown "00".
- Turn on wireless function by pressing wireless starting key ( >2S).
- Click "Relink".
- Repeat 1.

Note

If there are more than one wireless transceivers operate at same location.

- Different dongle ID's should be given.
- Distance between 2 dongles must be more than 30 cm. (12 inches)

6.2 Environment selection settings dialog box.

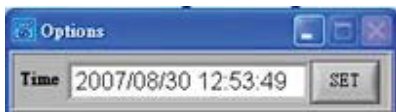


The screenshot shows a window titled "Options" with the following settings:

- Time: 2007/09/05 11:34:13 (with a SET button)
- Dongle ID: 1 (with a SET button)
- ID(1-127): 1
- CH(1-50): 14 (with a SET button)
- Time Out alarm File(*.wav): C:\WINDOWS\Media\ding.wav (with a file selection button and a play button)
- Hi/Lo alarm File(*.wav): C:\WINDOWS\Media\ding.wav (with a file selection button and a play button)
- Background Color / Channel Hi/Lo Limits:

	CH1 Hi	CH1 Lo
Ch1	0	0
	CH2 Hi	CH2 Lo
Ch2	0	0
- Stop Logging When Battery is Low
- Buttons: OK, Cancel

Time setting



Only available for meters with time setting function.


Click "SET" synchronize the clock in meter with the time of PC.



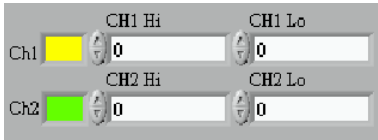
Only available for meters with wireless function.

Sound of Hi/Lo limit setting



Click data folder icon on the right  , and select sound effect. (Only use WAVE format).

Hi/Lo limit setting




a) Setting the Limits.

Audio alarm will be actuated, when measurements are out of limits.

b) Background color of each channel can be selected.

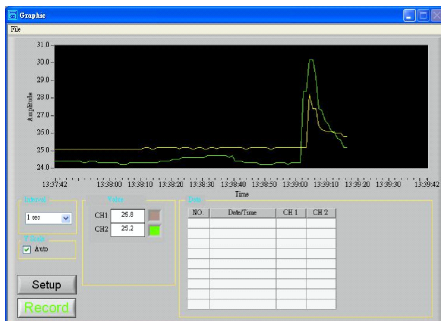


Enable or disable the function which stop data logging when battery is low.

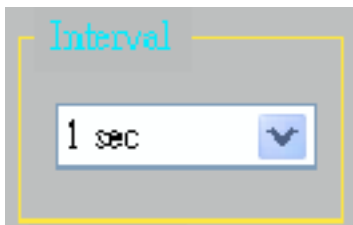
6.3  Relative dialog box.



6.4 Graphic dialog box.



Interval setting



Y scale setting



Select auto mode to accept Y scale automatically set by PC. Turn off the auto mode to freeze Y scale at that moment.

Data area

NO.	Date/Time	CH 1	CH 2
28	2007/10/09 18:50:42	25.2	25.7
29	2007/10/09 18:50:43	25.2	25.7
30	2007/10/09 18:50:44	25.2	25.6
31	2007/10/09 18:50:45	25.2	25.7
32	2007/10/09 18:50:46	25.2	25.6
33	2007/10/09 18:50:47	25.2	25.6
34	2007/10/09 18:50:48	25.2	25.6
35	2007/10/09 18:50:49	25.2	25.7
36	2007/10/09 18:50:50	25.1	25.6
37	2007/10/09 18:50:51	25.1	25.6

Display last ten measurements.

CH1/CH2 Setting

Setup

: Click this button to turn on or off CH1 and CH2 and select the background colors.

Start data logger

Record

: Click this button to bring up "Log Setup" window.

Log Setup

File Name: 20070830134558

File type: Microsoft Excel(*.xls)

User Name: [Empty]

Path: C:\Program Files\800S W\Data

Description: [Empty]

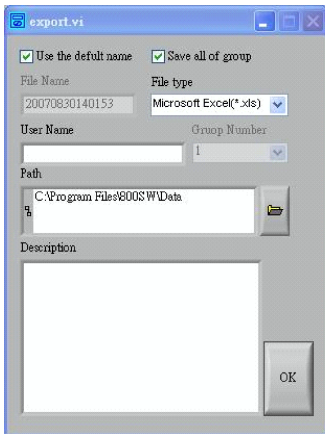
OK

Cancel

File menu


File

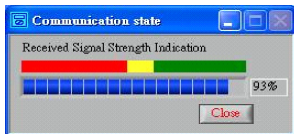
Exports Data exports



Exit Exit program.

Reload re-load data.

6.6  Received signal strength indication.
Only available for meters with wireless function.




a) The barograph and number are Received Signal Strength Indicator (RSSI).

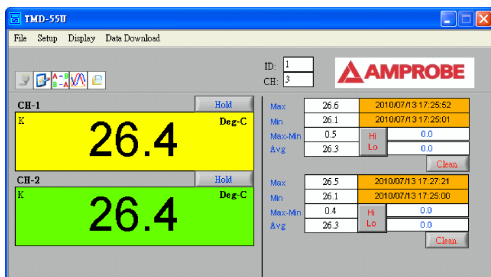
- RSSI ≥ 60 signal is better (in green range).
- $60 \leq \text{RSSI} \leq 50$ signal is good (in yellow range).
- RSSI ≤ 50 signal is weak. (in red range)

b) Suggestions for weak signal:

- Change the location & orientation of dongle (vertical to the ground is best.)
- Change location of orientation of meter.

6.7  Low battery warning, please change batteries as soon as possible.

7. Introduction Of Main Display



Left hand side shows reading of each channel with unit at right-upper corner.

When measure with thermocouple, the type of thermocouple is shown at left-upper corner.

Right hand side shows maximum (MAX), minimum (MIN), range (MAX-MIN) and average (AVG) value of readings, and times of maximum and minimum value occur.

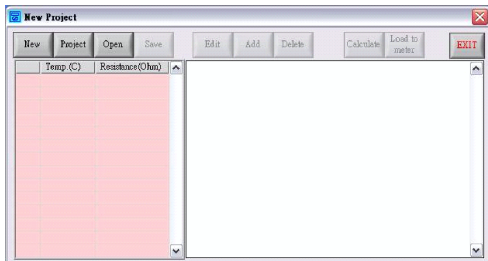


: Click the button to holds the current reading.

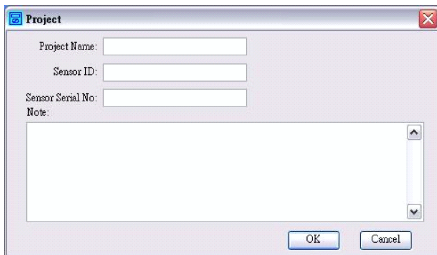
Clean : Click the button to reset the reading and time of MAX, MIN&AVG.

Hi Lo : Click the button to activate out of limit alarm.
Hi/Lo limit values are set in 6.

8. User Linear Operation



New : Click this button to create a new blank file based on the default template.



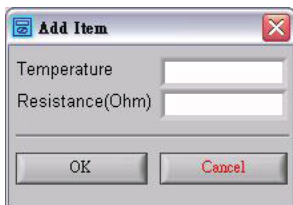
Project : Click this button to open project.

Open : Click this button to open or find a file.

Save : Click this button to save the active file with its current file name, location and file format.

Edit : Click this button to edit data.

Add : Click this button to add data.



Add Item

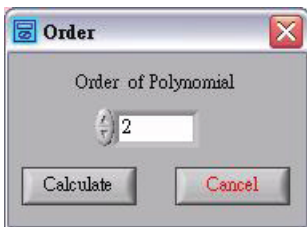
Temperature

Resistance(Ohm)

OK Cancel

Delete : Click this button to delete data.

Calculate : Click this button to calculate this polynomial.



Order

Order of Polynomial

Calculate Cancel

Data complete

The screenshot shows a software window titled "New Project.gin". It features a menu bar with "New", "Project", "Open", "Save", "Edit", "Add", "Delete", "Calculate", "Load to meter", and "EXIT". Below the menu bar is a table with two columns: "Temp.(C)" and "Resistance(Ohm)". The table contains three rows of data:

	Temp.(C)	Resistance(Ohm)
1	0	100
2	100	138.505
3	200	175.856

To the right of the table, a text area displays the following information:

FIT 2 Order POLYNOMIAL COEFF's:
Temp = c0 + c1.R + c2.R^2
c0 = -2.450557106611570E+2
c1 = 2.344778824541566E+0
c2 = 1.057782820700131E-3

Load to
meter

: Download user linear to meter

The "Load to Meter" dialog box contains the following fields and controls:

- Channel:** A dropdown menu with "T1" selected.
- Name (Max 20 chars):** A text input field containing "804R".
- Maximum of Temperature:** A text input field containing "200".
- Minimum of Temperature:** A text input field containing "0".
- Buttons:** "OK" and "Cancel" buttons at the bottom.



: Click this button to close this program after prompting you to save any unsaved files.

WIRELESS FEATURES

Frequency range:

910~920MHz. (Model 8XX)

868.1~868.5MHz. (Model 8XXE)

Current consumption: Less than 1mA.

Transmission distance: 25M of sight distance without magnetic interference.

Federal Communications Commission

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. this device may not cause harmful interference.
2. this device must accept any interference received, including interference that may cause undesired operation.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

DESCRIPTION OF MULTI-METER PC SOFTWARE MULTI WIRELESS COMMUNICATION

Note: Please insert the Dongle after SW installation.

Insert Dongle to PC/USB port

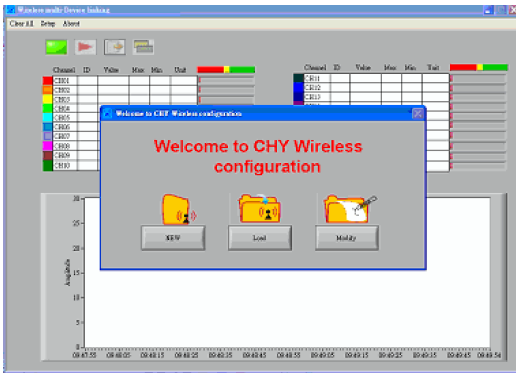
System will detect dongle and install the driver while connecting to PC USB port.

Wireless Multi-Linking version instruction:

1. Insert USB dongle to PC's USB slot.
2. Start PC software.

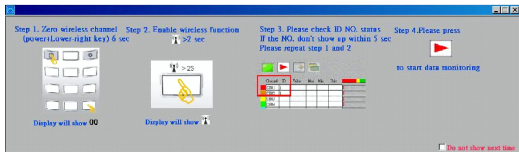
PS Software description:

1. Enter start page.

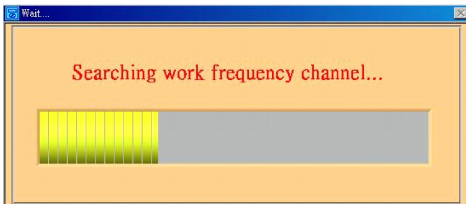


2. "New": Start with new project (First use)

- System will search free channel, please wait.




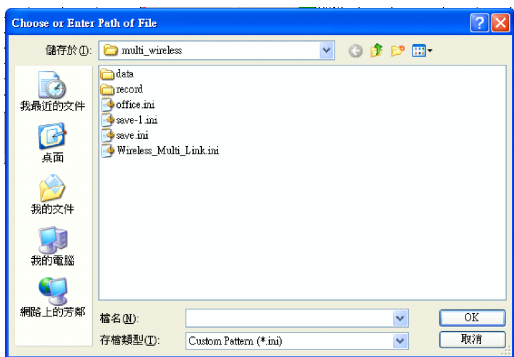
- Wizard configuration: Please follow step by step



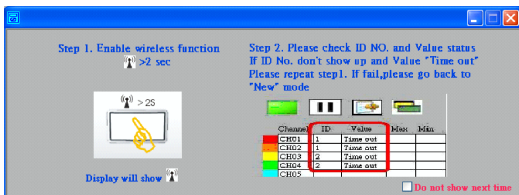
Note : Please add the wireless instrument (ID/CH) one by one to the system to avoid working channel collision.

3. **“Load ”:** Only operate with saved project.
System will load previous **“ ID/CH”** from saved file.

- Please select the saved file  (.ini)



- Please follow wizard configuration.

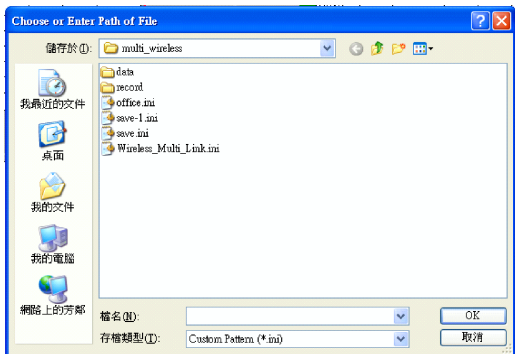


4. "Modify": Load saved project (.ini) and can also add new meters.

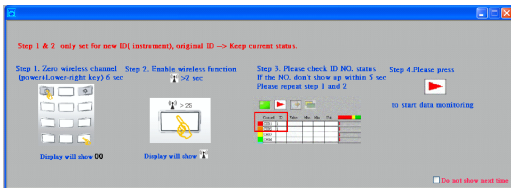
- Please select the saved file



(.ini)





- Please follow wizard configuration





5. Function row.




 : Comport Find


 : Start recording data


 : Start execution key

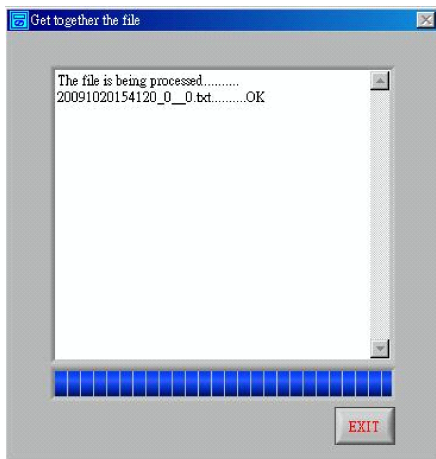
 : Enlarge display icons

5-1.  Auto Comport Find

 Comport connection

 Comport connection fail

5-2.  Start recording channel's data and measuring values into txt file




Default File Save at:

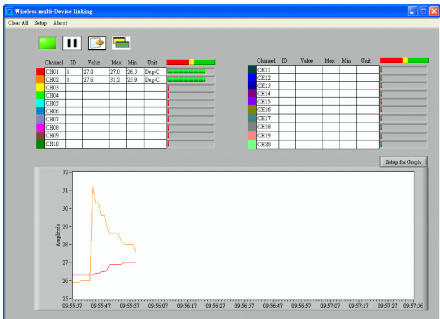
C:\Amprobe-HVAC_Multi\record

The default file name is current time.

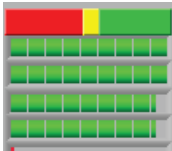
(YYYYMMDDHHMMSS_ID__ File Member).

5-3.  "Start key" to activate connection.

- Real time measuring values display dialogue
Add channels respectively and display measuring values on the chart.




- Connection status dialogue
Display the connection status of each meter.



- Signal strength RSSI ≥ 60 means good
(within green area)

- Signal strength $60 \geq \text{RSSI} \geq 50$ means normal (within yellow area)
- Signal strength $\text{RSSI} \leq 50$ means not good. (within red area)

PS: Suggestions as follows: When the signal is weak.

6.  Magnify display dialogue

For easy and clear to monitor the channels and data.



7. Dropdown menu

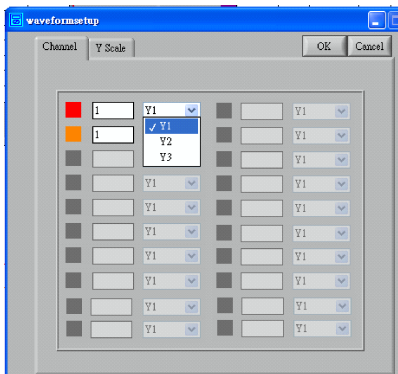


7.1 **Clear All:** clear List & chart to empty

7.2 **Setup:** Set Hi & Lo setting value to be blinking when they are over setting values.

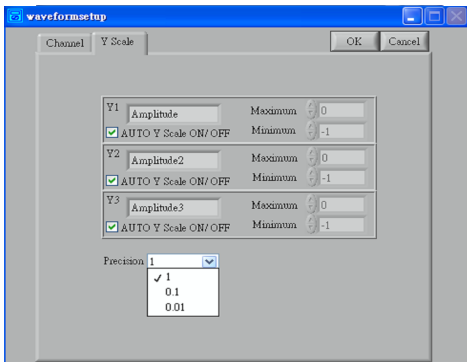
7.3 **About:** Display manufacturer information.

8. Y axis setting for each channel.

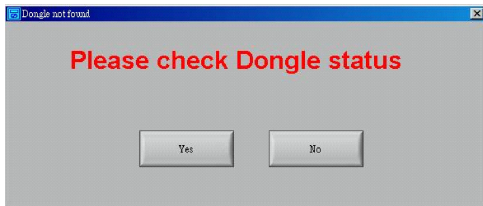


Precision : Y axis resolution setting

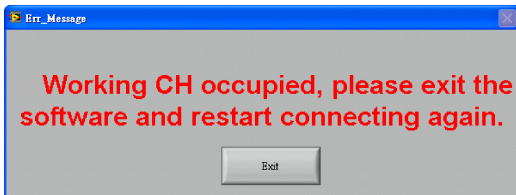
AUTO Y Scale ON/ OFF: Select Auto-scale



FAQ



Dongle was not found, please reconnect dongle or check USB port status as page2/step2 (CHECK Dongle CONNECTION PORT)

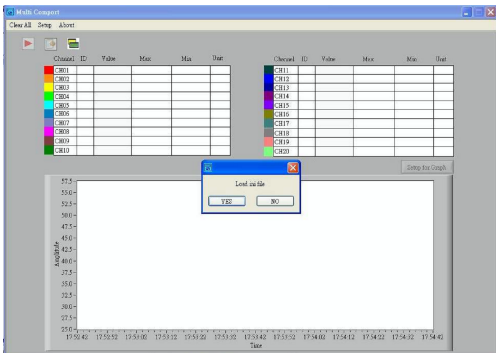


Working CH occupied, please exit the software and restart connecting again.

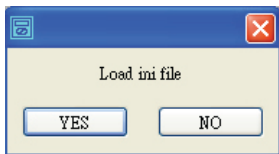
DESCRIPTION OF MULTI LINES PC SOFTWARE INSERT USB TO PC'S USB PORT

1. Enter start page.

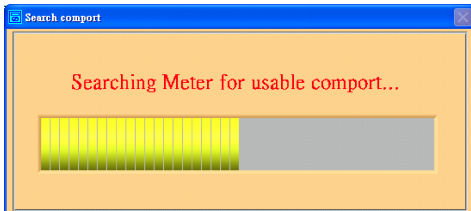
Please insert USB cable with meter, PC software will auto detect meter device and set ID number for the meter.



2. "Load ": Only operate with saved project.
System will load previous " ID/COM" from saved file.



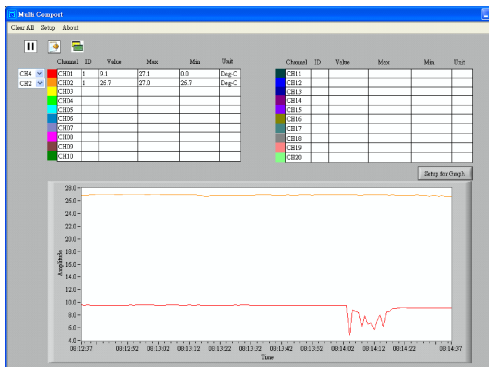
3. "Comport search .




4. **"Start key"** to activate connection.

Real time measuring values display.

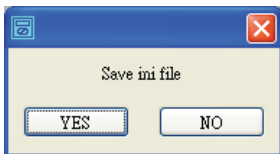
Add channels respectively and display measuring values on the chart.




5.  Record data

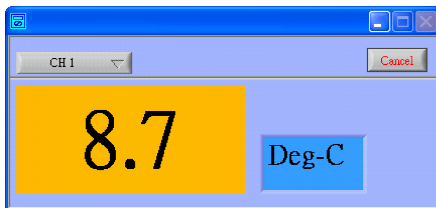
 Start recording channel's data and measuring values into txt file.

6. Save previous **"ID/COM"** to ini file.



7.  Magnify display dialogue

For easy and clear to monitor the channels and data.



8. Dropdown menu

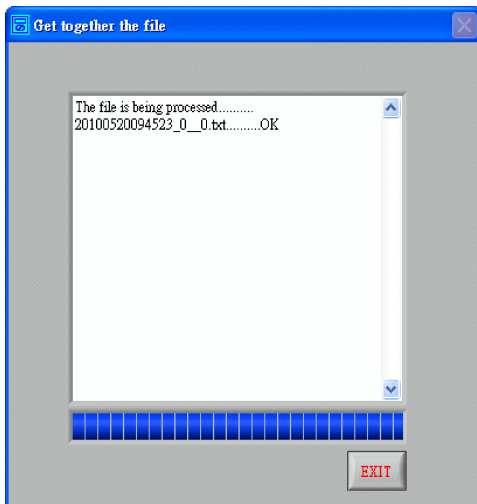


8.1 **Clear All:** clear List & chart to empty

8.2 **Setup:** Set Hi & Lo setting value to be blinking when they are over setting values.

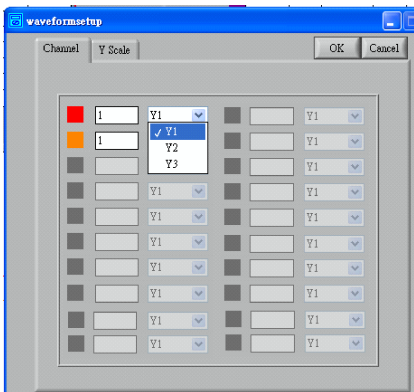
8.3 **About:** Display manufacturer information.

9. Default File Save at: C:\Amprobe-HVAC\record



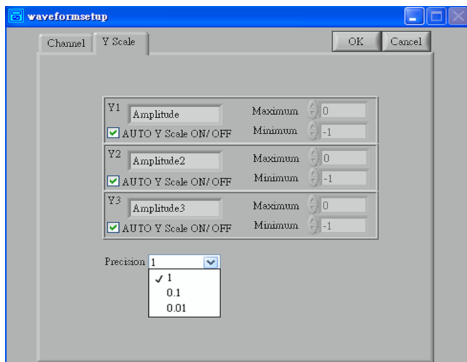
The default file name is current time.
(YYYYMMDDHHMMSS_ID__ File Member).

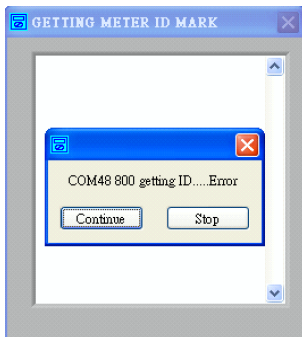
10. Y axis setting for each channel.



Precision: Y axis resolution setting

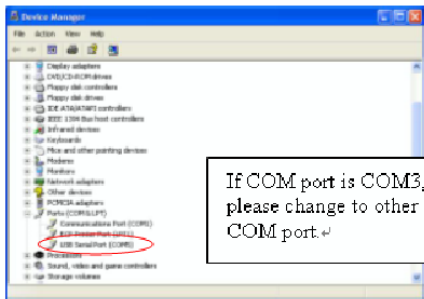
AUTO Y Scale ON/ OFF: Select Auto-scale





Before play must to check meter power on, if show message err may be meter power off or meter has not connection.

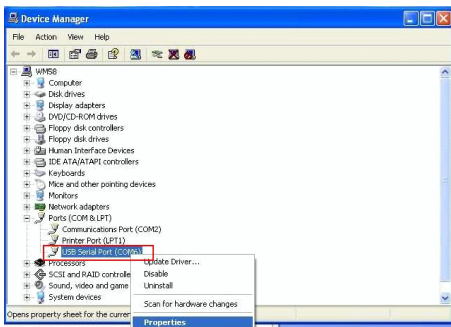
- If the ID NO. was not displayed while connecting to USB cable. Please check COM port status as page2. Or if the COM port is COM3 or COM10, please change COM port NO. to others.



PS: The data displayed was list by connecting sequence, instead of ID NO. First connecting instrument might not be ID 01.

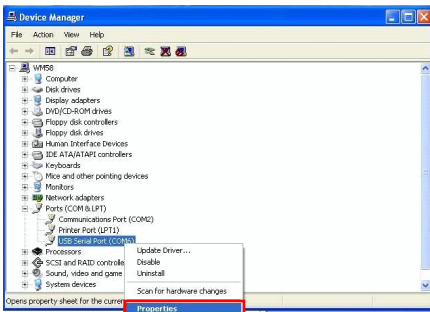
COMPORT CONFIRMATION PROCEDURE

1. Confirm to see if the port (COM&LPT1) of PC is assigned to the meter like the following illustration, but it could be other Comport not COM6.

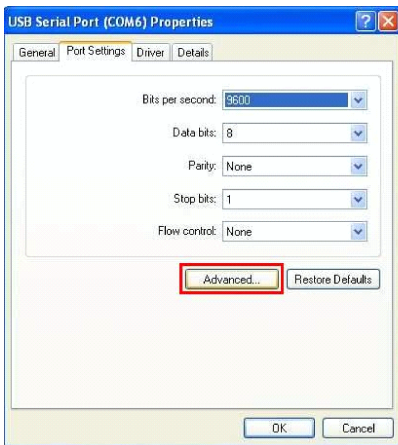


2. If it is normal, then the change of the port (COM&LPT1) of PC must follow the following step to make Comport changes.

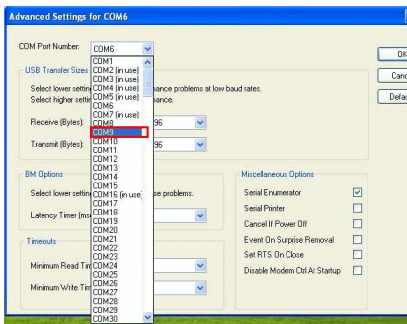
Step1. Click on the Properties of the red frame.



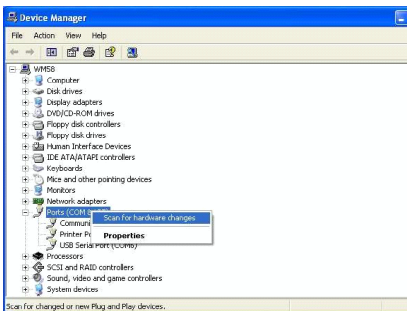
Step2. Choose the Advanced of the red frame as the illustration blow



Step3. Choose Comport other than COM10, COM3 and the COM without "IN USE" like the illustration below.



Step4. Complete the above steps and re-scan the device. And start opening the software to do Auto-Connection.



Visit www.Amprobe.com for

- Catalog
- Application notes
- Product specifications
- User manuals



Please Recycle