FAQ on thickness gauge DH-TDS110

1. How many measurements can be stored in the machine?
   Total up to 500 values. The memory has got 5 files and each file can store up to 100 values.

2. How fast is the measurement?
   Four measurement readings per second

3. Is there a RS 232 communication available?
   Not in this TDS 110 model. But there are models available to connect the meter to the thermal mini-printer

4. Key functions:

Old model/ in the softcopy manual	New model / Hard copy Instruction manual that comes with the meter
VEL	
CAL	
MENU	

5. While setting up the probe frequency there are 4 options available. Which one should I choose?
   It depends on the probe you have purchased. At present ECEFast is selling 5M model only. Other models are available on request. 2M, 5M, 7M or ZW
   - *Frequency 5MHz:*
     Lower limit for steel pipes Φ20mm x 3.0 mm
   - *Frequency 7MHz:*
     Lower limit for steel pipes Φ15mm x 2.0 mm

6. What is a coupling agent?
   Coupling agents or Couplant are used to help the ultrasonic wave to have better transmission coefficient and give better dB. Liquids like glass water, glycerine, engine oil, consistent grease can be used as a coupling agent. It is always good to contact the supplier to supply the correct coupling agent

7. Why should I need sound velocity for the thickness gauge and why should the sound velocity value be accurately entered in the meter?
   The speed of sound varies in various materials and the information is necessary to have when using our TDS 110 ultrasonic thickness gauge, as the speed the ultrasound will move through the material to obtain an accurate thickness reading.

8. I can't get the meter going?
   I think you mean, the meter is not reading the thickness of the material as you would expect the meter to do and it stays in the sound velocity mode.
   The meter is working alright. There are few more steps to go to the thickness measurement mode. Select the correct sound velocity from the table and value closer to that.
For example choose or enter 5920m/s for steel or 2388m/s for PVC then apply the Couplant on the surface of the measuring material or on the surface of the sensor. Then you will see the reading below:

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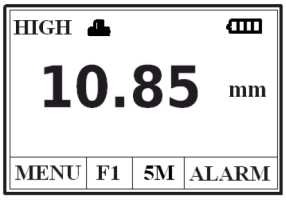


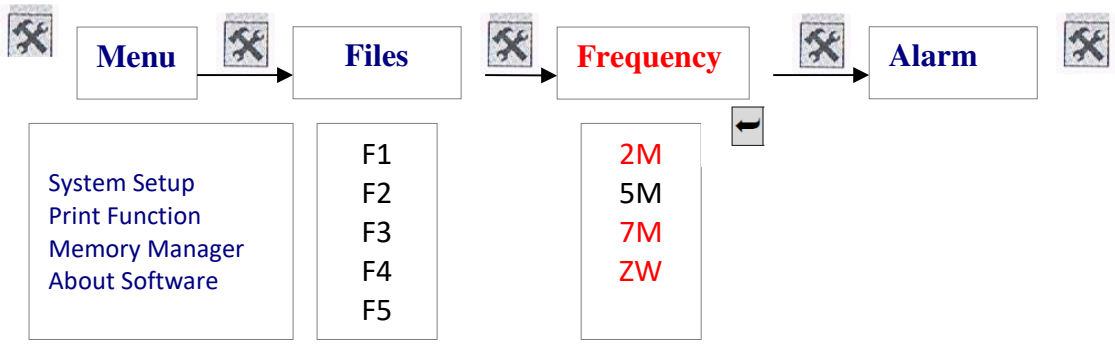
When the probe is coupled with the material to be measured, the instrument will display the coupling indicator ; if the indicator flashes or doesn't appear, it means that the coupling is not good; The coupling agent should be used in proper amount and be coated evenly. It is very important to select proper coupling agent. When it is used on a smooth surface, you'd better use an agent with low viscosity (such as coupling agent provided along with the instrument and light engine oil, etc.). When it is used on a coarse object surface, or vertical surface and top surface, one can use agent with high viscosity (such as glycerine grease, consistent grease and lubricating grease, etc.).

9. What is **zero calibration**?

It is not mentioned in the soft copy but available in the section 3.5 of the printed copy that comes with the Instrument.

Operating instruction

i) Select the correct transducer frequency (5M)



ii) When the meter is switched on, the LCD will display the last entered sound velocity

Select the sound velocity to 5900 m/sec for example from the saved data by pressing the key or key in the value 5900 m/sec by using the and

If the display is reading thickness, by pressing VEL, you can come into the sound velocity mode.

Please note every time when you press VEL, the value will scroll from the contents in the memory.

Adjust the value by using or till you reach the desired value. For example if your desired value is 5920 then the display should read as below:

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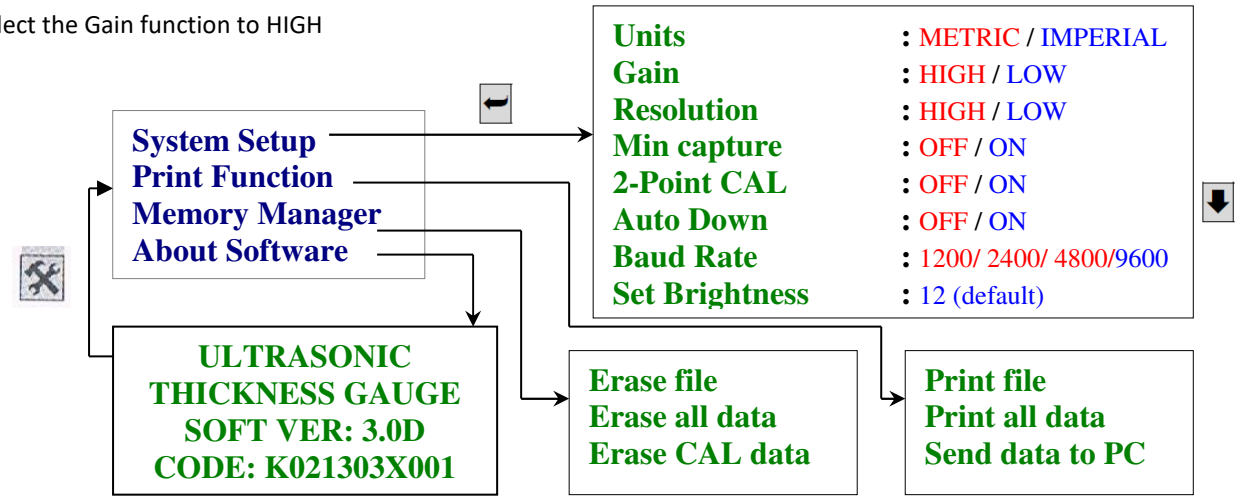
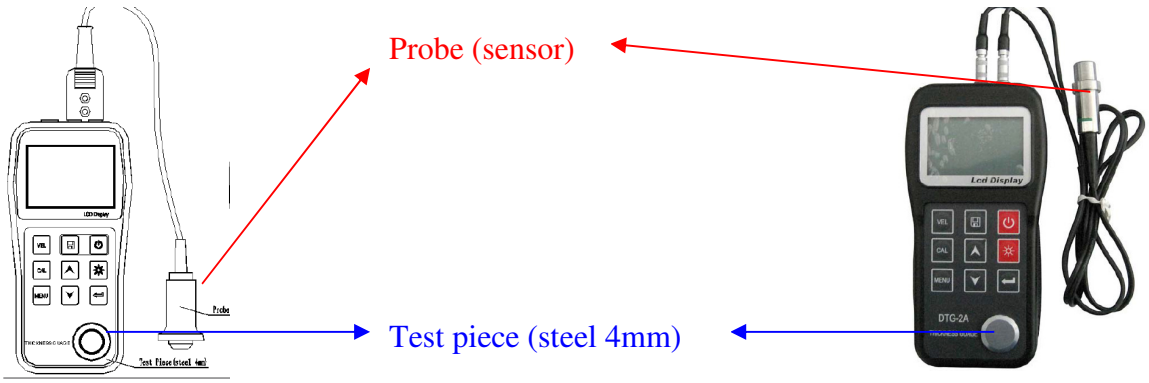
ii) Select the Gain function to HIGH



iii) Place the probe on the 4mm test piece. Wait for a good coupling sign in the display. Press which is the zero point calibration key to do the calibration of standard block of 4.00mm.
The instrument will complete the calibration by a buzzer sound and a display to say " **calibrate** e"



iv) The calibration data is stored in the memory.

10. What if the zero calibration is done wrongly? (How to correct the zero calibration if done wrongly)
Go to the Menu.

Repeat step 9 to do the zero calibration.

11. What is Comm Set : Simplex and Duplex (default) and what is the use of Baud rate?
As mentioned in Answer 3 this model doesn't have the RS232 communication, so Comm Set is an invalid selection or not applicable and the same with Baud rate also.

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12. How to use the Print function and how to send the data to the PC?

As mentioned in Answer 3 this model doesn't have the RS232 communication, so the printer function is an invalid selection or not applicable and the same with the sending data to PC

13. Can it measure concrete floor thickness?

Unfortunately not. Materials that are generally not suited for ultrasonic gauging because of their poor transmission of high frequency sound waves include wood, paper, concrete, and foam products. They are good for metals, plastics, fiber glass, ceramics, and glass. Please refer the table in the manual for more information.

The sound velocity for different materials

Material	m/s
Aluminum	6320-6400
Zinc	4170
common Steel	5920
stainless Steel	5740
Brass	4399
Copper	4720
Iron	5930
Case Iron	4400-5820
Lead	2400
Nylon	2680
Vulcanized Rubber	2311
Teflon	1422
Porcelain	5842
PVC	2388

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