

TM210 PLUS

Thickness gauge



Features

- Probe-Zero function
- Sound-Velocity- function.
- Two-Point Calibration function
- Coupling status Indicator showing the coupling status.
- Battery status
- Auto sleep and auto power-off function to conserve battery life.
- USB port with Protective Membrane and data software to process the memory data on the PC.

Capable of performing measurements on a wide range of materials, including metals, plastic, ceramics, composites, epoxies, glass, and other ultrasonic wave well-conductive materials.

Specification

Display	LCD with LED backlight.
Accuracy	±0.5%Thickness +0.02mm, depends on materials and conditions
Probe model	TM-08; 5MHz
Measuring range	0.75mm-225.0mm (in steel)
Diameter minimum	8.0mm
Sound velocity	1000m/s ~ 9999m/s
Application temperature	-10 to +60°C
Lower limit for steel pipe	5MHz probe: Φ20mm x 3.0mm
Measurement response	Four measurements readings per second for single point measurement
Display resolution	0.01mm or 0.1mm (lower than 100.0mm) 0.1mm (more than 99.99mm)
Power Supply	2 x 1.5V AAA size, batteries.
Weight	320 g
Memory	Up to 5 files (up to 100 values for each file) of stored values

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FAQ on thickness gauges

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, fiberglass, ceramics, and glass. Please refer the table in the manual for more information.

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 ultrasonic thickness gauge, as the speed the ultrasound will move through the material to obtain an accurate thickness reading.

What are the common errors that occur in measuring ultra-thin objects?

When measuring ultra-thin objects, sometimes the readout is twice the actual thickness. This is because of double refraction. There is another error called "pulse envelop, cyclic leap" which results in the measured value larger than the actual thickness. To prevent these kinds of errors, repeat the measurement to check the results.

What are the common errors in measuring the thickness?

Un-parallel surface: The surface of the object must be parallel to or co-axial with the surface to the sensor, otherwise, it will cause measuring error or even no display.

Rough surface: Before measuring, please smooth the surface of the object by grinding, polishing, or filing, etc. or use a coupling agent with high viscosity for that.

Temperature: The transmitting speed of ultrasonic wave are influenced by temperature. If it has a high accuracy requirement for the measurement, choose the high-temperature sensor. Coupling agent: The coupling agent is for transmitting high-frequency energy between the probe and the object. If the type of agent is wrong, or the utilization is wrong, it will cause an error or flashing coupling indicator, and it will be impossible to measure. The coupling agent should be used in proper amounts and be coated evenly. It is very important to select a proper coupling agent. When it is used on a smooth surface, you'd better use an agent with low viscosity (such as light engine oil, etc.). When it is used on a coarse object surface, or vertical surface and top surface, one can use agents with high viscosity (such as glycerine grease, lubricating grease, etc.).