

JITAI5106 Ultrasonic Thickness Gauge



I. Introduction

Digital ultrasonic thickness meter is a rugged and versatile thickness testing equipment made by On the one hand, it can measure super thin parts with minimum thickness up to 0.15mm for steel. On the other hand, it supports high precision measurement with the resolution up to 0.001mm.

Portable thickness gauge is designed to test the wall thickness and corrosion of various kinds of plates, pipes, boiler vessels, widely applied in industries like metallurgy, shipbuilding, machinery, chemical, petroleum, aerospace, aviation, electric power, nuclear energy, oil and gas pipelines, boiler inspection, pressure vessels and others, which plays an important role in safe operation of equipment and modernization management.

II. Technical Specifications

- Display:128*64 LCD with LED backlight
- Measuring Range:(0.15~20)mm
- Velocity Range:(1000~9999) m/s
- Resolution:0.001mm
- Measuring accuracy:±0.005mm(thickness is under 3mm);±0.01mm(thickness is under 20mm)
- Storage:500 values of saved data
- Power Source:2pcs 1.5V AA size
- USB Port
- Working Time:more than 200 hours (LED backlight off)
- Outline Dimensions:153mm*67mm*26 mm
- Weight:220g

III. Main Functions

- Especially suitable for testing the thin workpieces while keeping high accuracy
- I-E testing mode and E-E testing mode
- Sound velocity testing and single point calibration
- Sound alarm and different modes are available
- Free conversion between metric and imperial
- Up to 500 data can be stored, reviewed and deleted
- Backlight and adjustable contrast
- Result can be print out and transfer to PC

IV. Primary Theory

The digital ultrasonic thickness gauge determines the thickness of a part or structure by accurately measuring the time required for a short ultrasonic pulse generated by a transducer to travel through the thickness of the material, reflect form the back or inside surface, and be returned to the transducer. The measured two-way transit time is divided by two to account for the down-and-back travel path, and then multiplied by the velocity of sound in the material.

The result is expressed in the well-known relationship:

$$H = \frac{v \times t}{2}$$

Where: H—Thickness of the test piece.
 v---Sound Velocity in the material.
 t----The measured round trip transit time.

V. Standard Configuration

	No.	Name	QTY	Notes
Standard Configuration	1	Main Body	1 set	
	2	Standard Probe(15MHz,D6mm)	1 pc	
	3	Couplant	1 pc	empty
	4	ABS Case	1 pc	
	5	Product Certificate	1 pc	
	6	Warranty Card	1 pc	
	7	Manual	1 pc	
	8	1.5V AA size battery	2 pcs	none