



VERTEX

Ultrasonic Thickness Gauge UT-01



Ultrasonic Thickness Gauge measuring with ultrasonic wave is applicable for measuring the thickness of any material in which ultrasonic wave can be transmitted and reflected back from the other face.

The gauge can provide quick and accurate measurement to various work pieces such as sheets of board and processing parts. Another important application of the gauge is to monitor various pipes and pressure vessels in production equipment, and monitor the thinning degree during using. It can be widely used in petroleum, chemical, metallurgy, shipping, aerospace, aviation and other fields.

SPECIFICATION:

Display	128*64 LCD with LED backlight, Color display
Measuring Range	(0.75~600)mm(Steel)
Velocity Range	(1000~9999) m/s
Resolution	0.01mm
Measuring accuracy	$\pm (0.5\%H+0.04\text{mm})$; H is thickness value

Measurement cycle	Single point measurement 6 times/per
Storage	3000 values of saved data
Power Source	4pcs 1.5V AA size
Working Time	more than 50 hours (LED backlight off)
Outline Dimensions	160mm*78mm*33 mm
Weight	245g
USB Port	

MAIN FUNCTIONS:

- Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials
- Can collocate variety different frequencies, wafer sizes of probes
- Sound Velocity Calibration function as a known thickness
- Coupling status indicator showing the coupling status
- EL backlight, and convenience to use under dark environment
- Have the battery indicator function, can real-time display the remaining power
- Auto sleep and auto power off function to conserve battery life
- Smart, portable, high reliability, suitable for bad environment, resist to vibration, shock and electromagnetic interference

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.

STANDARD CONFIGURATION:

	No.	Name	QTY	Notes
Standard Configuration	1	Main Body	1 set	
	2	Standard Probe(5MHz,D10mm)	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

THE CHOICE TO PROBES:

Name	Model	Fre.	Dia	Testing Range	Min. area ϕ	Application
Large diameter probe	N02	2.5	14mm	3.0mm~400.0mm(steel) Below 40mm (Gray Iron)	20mm	casting work piece
Large range probe	N02	2	14mm	3.0mm~600.0mm(steel) Below 100mm (Gray Iron)	20mm	casting work piece
Standard probe	N05/90°	5	10mm	1.0mm~230.0mm(steel)	ϕ 20mm*3.0mm	General bent probe
Micro-diameter probe	N07	7	6mm	0.8mm~80.0mm(steel)	ϕ 20mm 15mm*2.0mm	thin work piece
High Temperature Probe	HT5	5	14mm	3~200mm (steel)	30mm	high temperature

