Metrix+™
Innovative Excellence

ULTRASONIC THICKNESS GAUGE

UTM 90CT

Through coating measurement with A & B scan functions

Measuring principle

Ultrasonic thickness gauge determines the sample thickness by measuring the amount of time it takes for a sound pulse, generated by an ultrasonic transducer, to travel through a test piece and reflect from the inside surface or a far wall.



Applications

Applicable to measure the thickness of many materials, like steel, cast iron, aluminium, red copper, brass, zinc, quartz glass, polyethylene, PVC, gray cast iron, nodular cast iron and other ultrasonic wave well-conductive materials. It is widely used in almost all kinds of industries.

Features

- Multi-mode with Pulse-Echo for thickness and Echo-Echo for through coating measurements.
- A scan & B scan functions for in depth inspection of material properties.
- Difference and reduction rate display.
- Max, min and current values can be displayed simultaneously.
- Selectable update rate.
- Data storage and recall.

Technical Specifications

Model	*Metrix+* UTM 90CT
Display	2.4” color OLED with 320 x 240 pixel and contrast of 10000:1
Measuring range	Pulse-Echo Mode: 1.2 ~ 200mm(in Steel) Echo-Echo Mode: 3 ~ 50mm Through-Coating measurement
Units	mm/ inch
Resolution	Selectable: 0.01mm/inch, 0.1mm/inch
Sound Velocity	500 ~ 9999 m/s
Display modes	Normal, min/max, difference/ reduction rate(%), A-scan, B-scan
Rectify mode	RF+, RF-, HALF+, HALF-, FULL
V-path correction	Automatic
Update rate	Selectable 4Hz, 8Hz, 16Hz
Alarm setting	Min and max alarms with dynamic waveform color change on alarm
Power	2 x AA batteries
Operating time	approx. 40hrs
Power off	Selectable as always ON, or Auto OFF on 5/ 10/ 20 mins of inactivity
Operating temperature	-10°C ~ 50°C
Dimensions	156 x 75 x 38 mm (H x L x B), weight 270g (incl. batteries)

Standard accessories	Main unit, probe, couplant, manual, batteries, carry case

Functions overview

- **A- scan**: A scan mode or amplitude mode display shows the amplitude of the reflected waveform on the Y-axis and time on X-axis. So, the vertical axis gives the strength of echo wave while horizontal axis gives the depth of penetration. Using this information, we can detect any flaws present in the sample.
- **B-scan**: B scan gives a cross sectional plot of the sample, by moving the probe along the sample. At each point, the waveform amplitude (like in A scan) is displayed, with X axis as time. This helps us detect flaws with depth in the scanned cross section of the sample.



- **Difference/ Reduction rate(%) mode**: Difference mode displays the difference between the actual and normal value. Reduction rate shows the % of the thickness reduction when the sample becomes thin. This helps us identify parts of a sample which may be thin due to bending, etc.



- **Max/ min mode:** This mode shows the current, minimum and maximum thickness values simultaneously for detecting change in material thickness values.



Selection of probes:

Model	Type	Frequency	Contact Diameter	Measurement Range	Temperature Range
PT-08	Standard	5MHz	11mm	0.8 to 100.0mm	-10 to 70℃
TC510B	Standard	5MHz	13.5mm	1.2 to 200.0mm	-10 to 70℃
TM550	Small tube	5MHz	5mm	0.8-60 mm	-10 to 70℃
ZT-12-2	Cast iron	2MHz	17mm	4.0 to 508mm	-10 to 70℃
PT-06	Small tube	7.5MHz	8mm	0.8 to 30mm	-10 to 70℃
PT-04	Fingertip	10MHz	6mm	0.7 to 12mm	-10 to 70℃
GT-12-2	High-Temperature	5MHz	15mm	4 to 80mm	-20 to 300℃

Model and Specifications subject to change without notice.