Mikrosize®

iThick-4000

Ultrasonic Thickness Gauge

Video

Contact us

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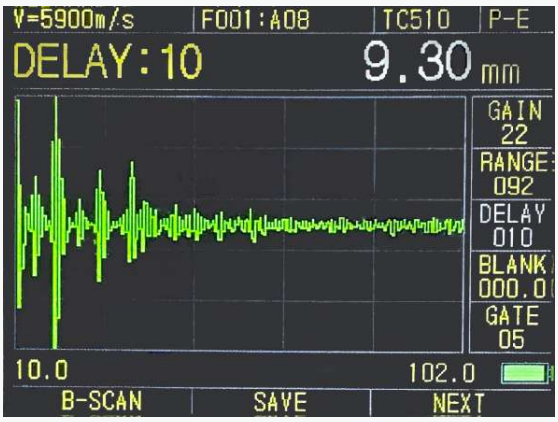
Product Features and Application

Product Features

- A simple and easy-to-operate single-level parameter configuration menu.
- A-scan snapshot function: Users can directly view the ultrasonic signal waveform on the screen, which is used to verify whether the thickness reading is correct, analyze the causes of problems, and help users find solutions.
- When the probe is coupled with the workpiece, the thickness value is displayed in white characters.
- Thickness alarm: The alarm thickness limit can be set, and the color of the thickness reading changes dynamically when alarming.
- Max-min mode: Captures the maximum and minimum values during the measurement process.
- Difference mode: Obtains the difference between the current thickness value and the nominal thickness, as well as the percentage of the difference to the nominal thickness.
- Support for two thickness units: millimeters and inches.
- Large-capacity data storage function: Can store 100,000 thickness values (optional).
- Can penetrate the coating on the surface of the workpiece and directly measure the base material thickness of the workpiece (optional).
- User-selectable measurement resolution: Metric X.XX and X.X, imperial X.XXX and XXX.
- Multiple language interfaces available.
- Standby time of up to 35 hours.



Application

- Measures the thickness of metal products like steel and aluminum plates, ensuring precise thickness of car body panels and aircraft frames.
- Measures the thickness of concrete columns and walls to assess their strength and checks floor concrete thickness for uniformity.
- Performs metal corrosion inspections, non-destructively measuring thickness reduction caused by external corrosion.
- Measures the thickness of metal pipes, containers, and plates, providing crucial data for quality control in production processes.
- Detects material uniformity and defects in welding and casting processes.

Instrument Interface

1.Screen **2.Keyboard** **3.Zero Calibration Block**

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Button Function

1.Virtual Function Buttons: Activate the functions indicated at corresponding screen positions. **2.Parameter Configuration Button.**
3.Power/Calibration Button: Tap to activate calibration; press and hold to power on/off.
4.Up Button. **5.Down Button.** **6.Left Button.** **7.Right Button.**

Interface Display

1.Thickness Reading
2.From left to right: Probe Type, Gain, Measurement Mode, Measurement Unit
3.Store Current Thickness Value **4.A-Scan Snapshot Interface**
5.Battery Power Display **6.Material Sound Velocity** **7.Thickness Value Storage Number**

Difference Mode

●This interface displays the difference (the difference between the measured thickness value and the nominal thickness), the reduction rate (the percentage of the difference to the nominal thickness), and simultaneously shows the numerical values of both the current measured thickness and the nominal thickness.

1.Nominal Value **2.Difference Value** **3.Drawdown Rate**

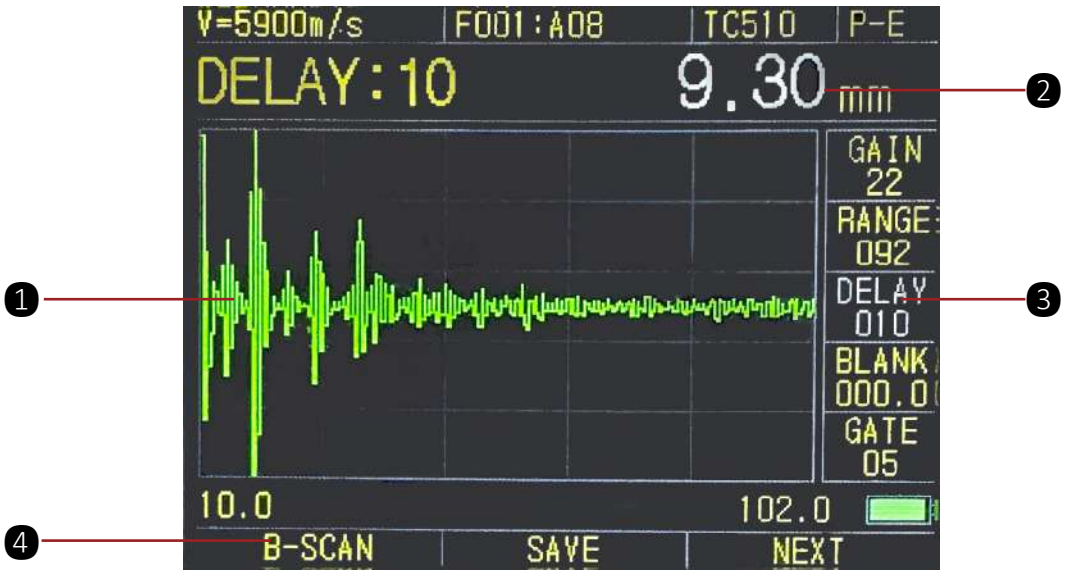
Maximum & Minimum Value Capture Mode

●In this mode, when the user continuously inspects the material thickness, it captures the minimum and maximum thickness values in real-time.

1.Maximum Value Detected **2.Minimum Value Detected**

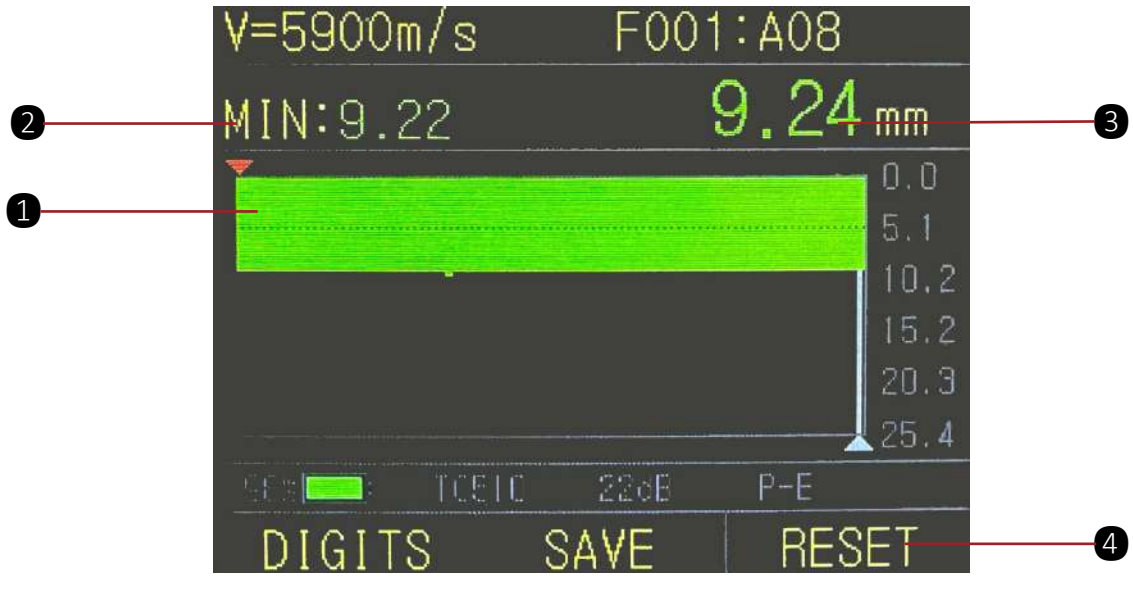
A-Scan & B-Scan Function

●**A-Scan Interface:**The user can directly view the colored ultrasonic signal waveform on the screen. By appropriately adjusting only three parameters: Gain (GAIN), Blanking (BLANKING), and Gate (GATE), based on the waveform, an accurate thickness reading can be obtained.



1.A-Scan Waveform Display 2.Current Thickness Range 3.A-Scan Parameters 4.B-Scan Interface Identification 5.Triangle Icon Pointing to Measurement Point 6.Current Probe Model

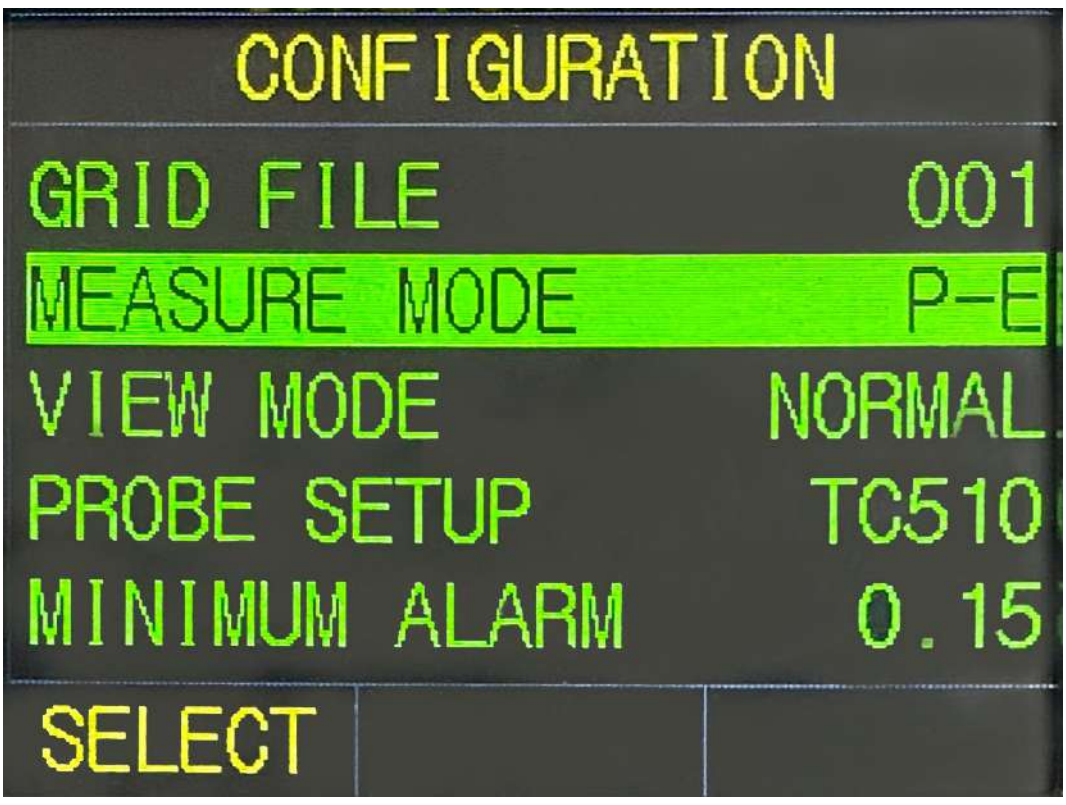
●**B-Scan Interface:** The B-Scan function involves moving the probe along the surface of the work-piece while maintaining good coupling throughout the process. The image display area shows a cross-sectional view of the workpiece based on thickness values, allowing observation of the bottom contour of the tested workpiece.



1.B-scan Waveform Image 2.Minimum Thickness Value in Current B-Scan Image 3.B-Scan Thickness Values 4.Reset B-Scan Image

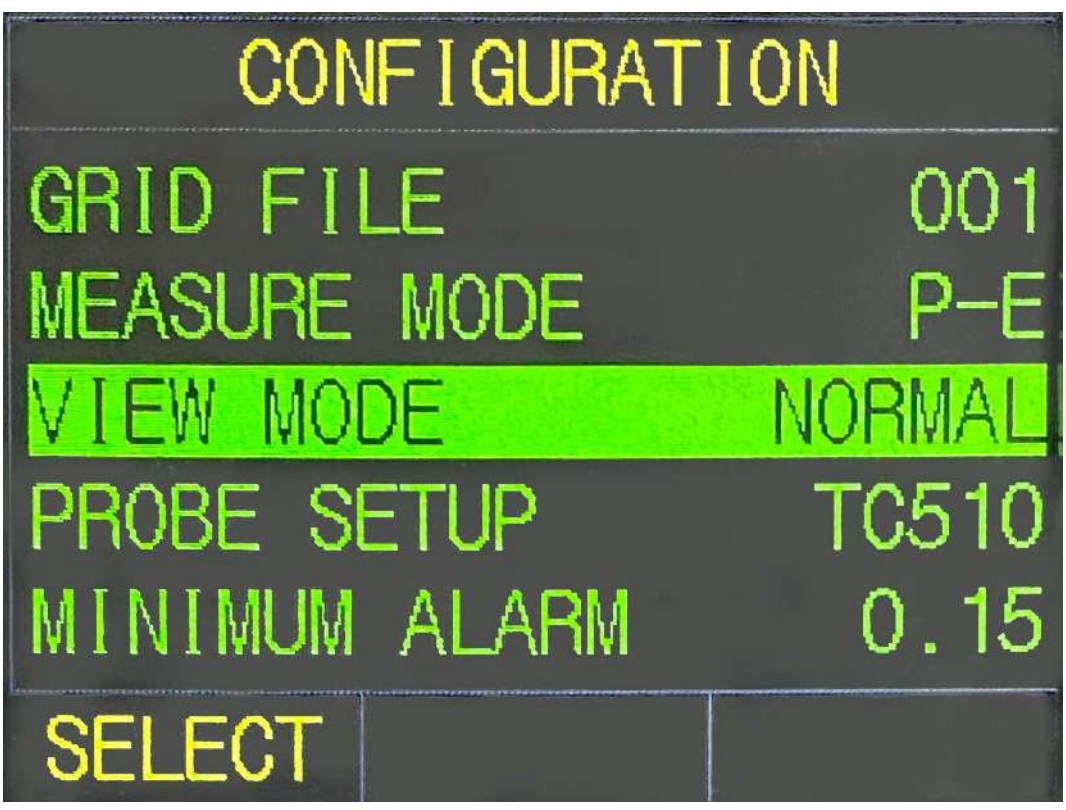
Menu Interface

●**Screen Display Menu Interface:** This menu interface includes a variety of parameter adjustment options, including file number, measurement mode, viewing mode, probe settings, low alarm limit, high alarm limit, nominal thickness, gain, resolution, update rate, language, unit of measurement, automatic power-off, clear all files, and factory reset.



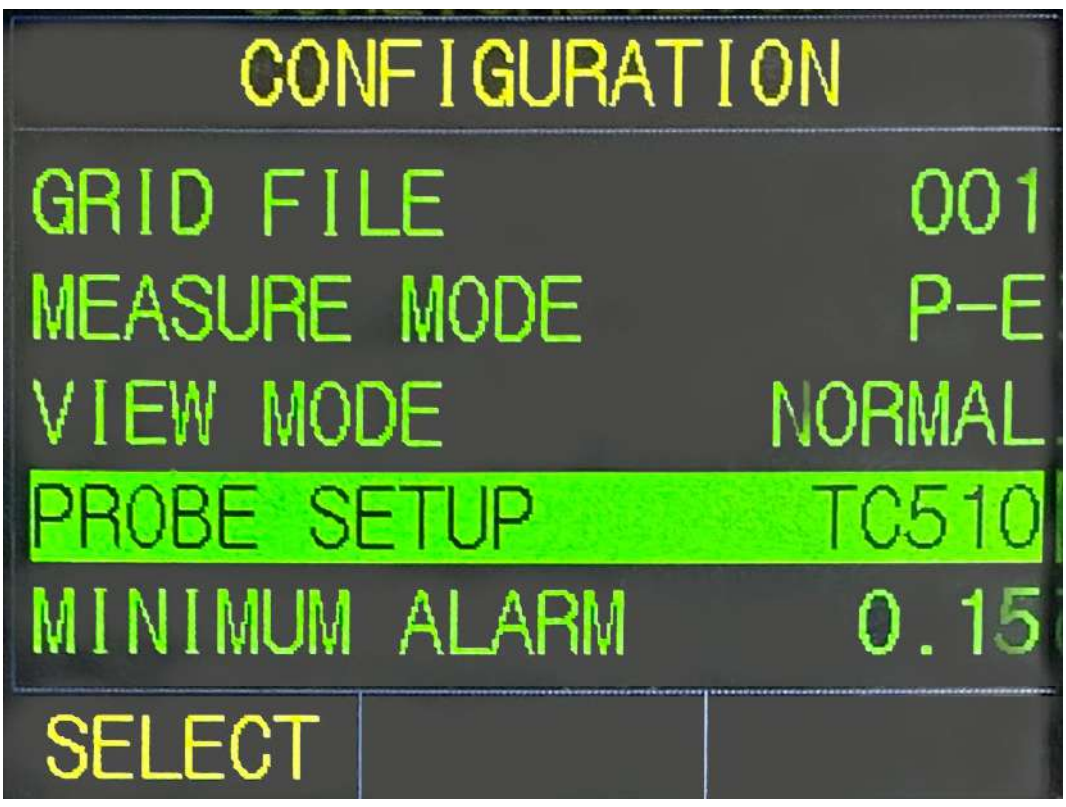
Measurement Mode

●**Measurement Mode:** There are two modes available: Single Echo and Dual Echo. The Single Echo mode is used for general measurements, while the Dual Echo mode is selected when using the coating penetration function.



View Mode

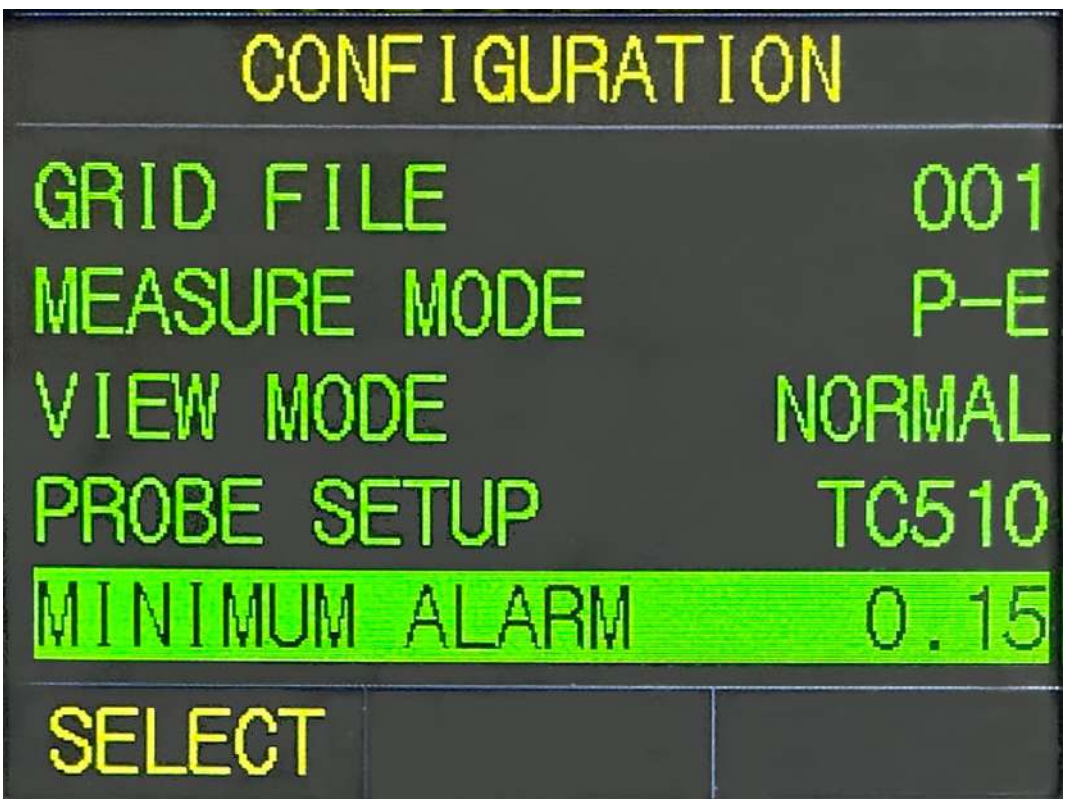
●**View Mode:** This parameter is divided into three modes: Thickness Value Mode, Difference Mode, and Maximum and Minimum Value Scanning Mode



Probe Setup

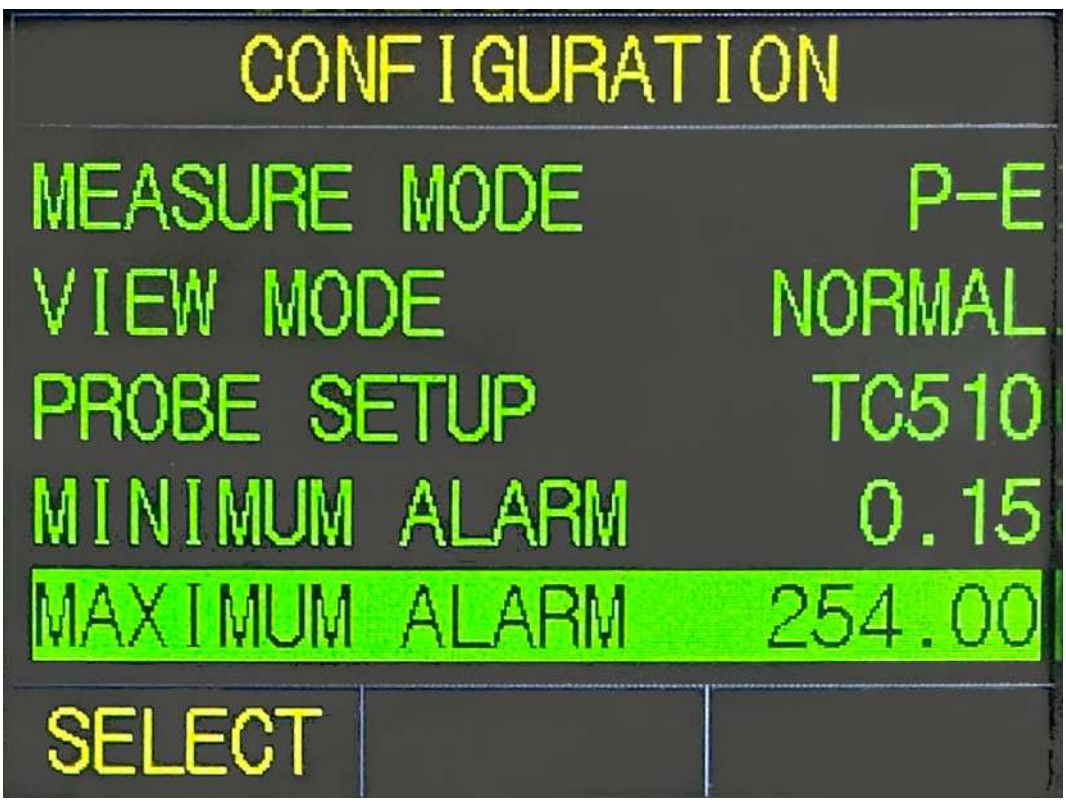
●**Probe Setup:** In the probe settings, there are several types of probes available for selection:
TC510 (Standard Probe)
PT-08 (General Purpose Probe)
PT-06 (Small Diameter Pipe Probe)
PT-04 (Miniature Probe)
GT-12 (High-Temperature Probe)
ZT-12 (Cast Iron Probe)
PT-12 (General Purpose Probe)

Menu Interface



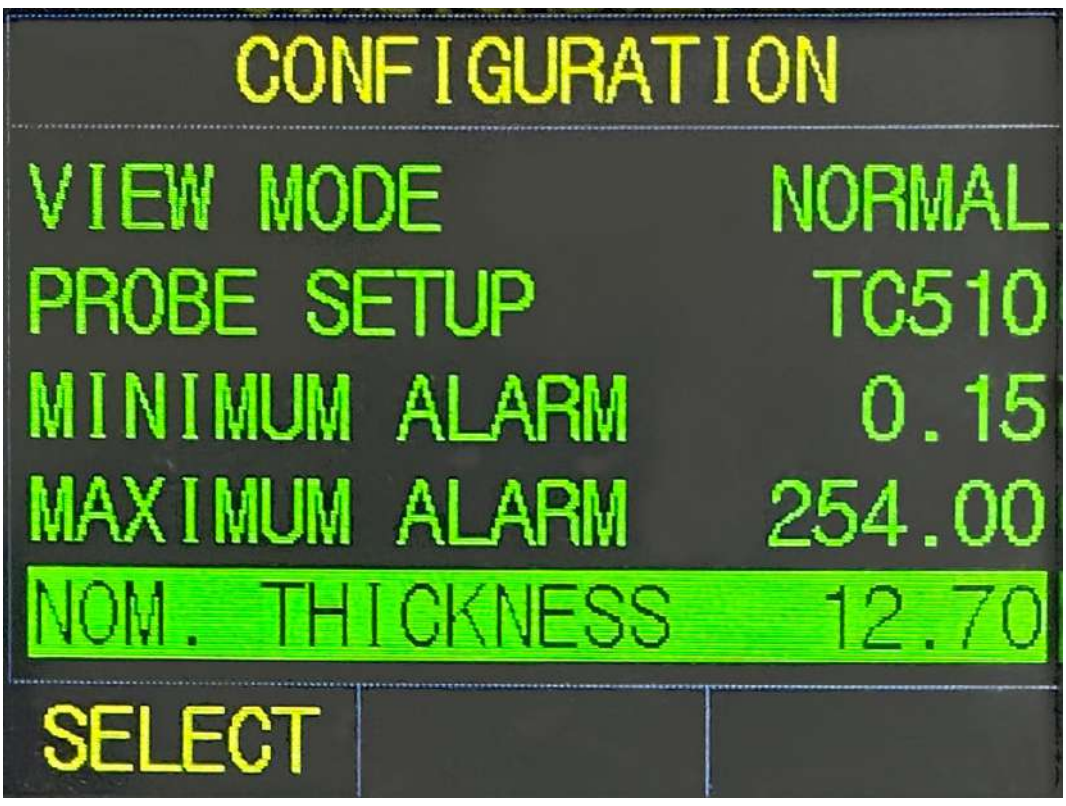
Minimum Alarm

Minimum Alarm: Set the minimum thickness alarm value. The setting range is 0.15 mm to 635 mm. If the measured thickness is less than the low alarm limit, the thickness value will be displayed in red characters.



Maximum Alarm

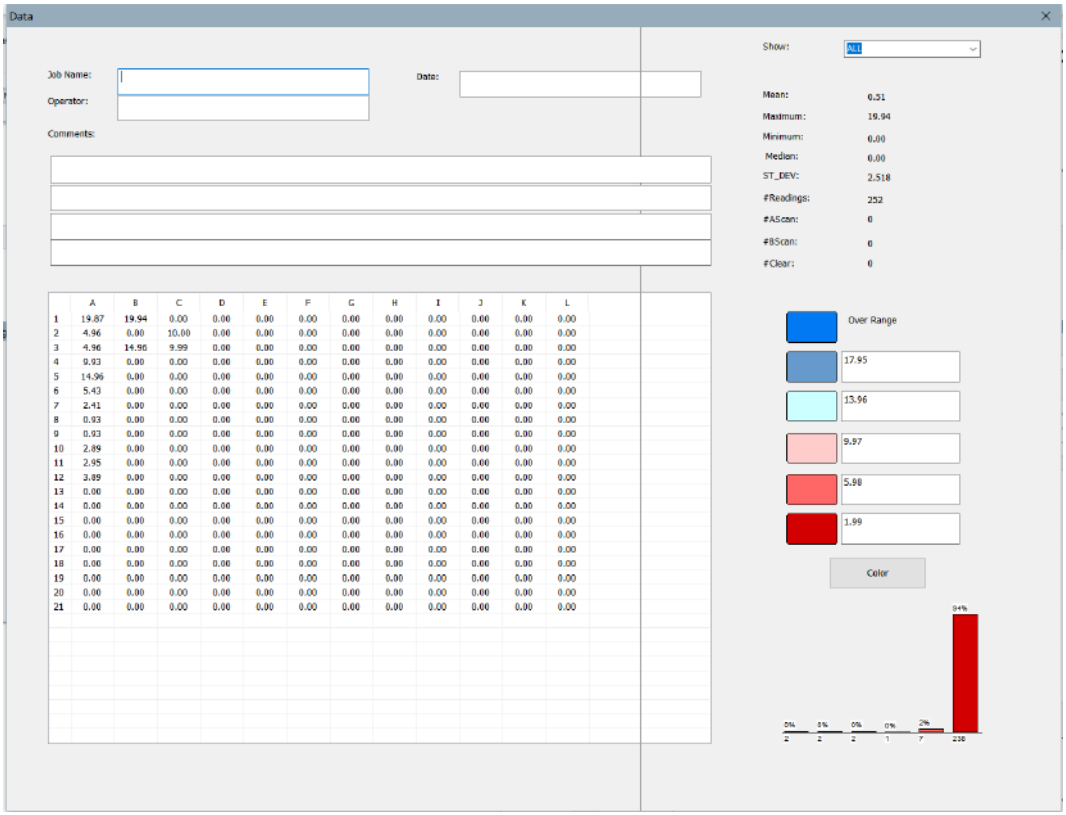
Maximum Alarm: Set the maximum thickness alarm value. The setting range is 0.15 mm to 635 mm. If the measured thickness exceeds the high alarm limit, the thickness value will be displayed in red characters.



NOM. Thickness

NOM. Thickness: Set the nominal thickness value. The setting range is 0.15 mm to 635 mm.

Host Computer Software Connection



The instrument has a powerful software connection function, which can perform statistics, analysis, archiving, and report printing on data.

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Technical Parameters

Display Screen	2.4QVGA (320x240) Color OLED Screen, Contrast Ratio 10000:1
Working Principle	Ultrasonic Pulse/Echo/Echo Method By Using Dual Crystal Probe
Measuring Range	0.5 to 508 Millimeters (0.025 to 20.00 Inches) Depending On The Probe Used, The Material Being Tested, And The Surface Condition
Measuring Resolution	0.01mm or 0.1mm(0.001in or 0.01in)
Unit	mm/inch
Display Mode	Thickness Value Mode, Minimum/maximum Value Capture Mode, Difference/reduction Rate Mode
V Path Correction	Automatic V-sound Path Correction To Compensate For The Nonlinearity Of The Dual Crystal Probe
Measuring Update Rate	4Hz/s, 8H2/s, 16Hz/s Optional
Range Of Material Sound Velocity	500-9999m/s,0.0179-0.3937in/us
Lanuage	Chinese/English/French or Any Other Customized Languages
Alarm Set	Max/min Value Alarm, Dynamically Change Thickness Reading Color When Alarm Occurs
Power Supply	Two 1.5V AA Batteries
Operation Time	More Than 35 Hours
Instrument Turn Off	Optional Automatic Shutdown After 5, 10, And 20 Minutes Of Inactivity, Or Manual Shutdown
Dimensions	151mmx76mmx37mm(HxWxD)
Net Weight	280g

Packing List

	Item	Qty	
Standard Delivery	Main Unit	1 unit	
	Probe	optional	
	Couplant	1 bottle	
	Alkaline Battery	2 pcs	
	Screwdriver		
	Documents	1 set	
	Instrument Case	1 case	
Optional Delivery	Mini USB Cable	1 pc	
	High Temperature Probe		
	Cast Iron Probe		
	Small Diameter Tube Probe		
	Small Diameter Tube Probe		
	Micro Probe		