

One Stop Non-destructive Testing Solution Supplier

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User Manual

Through Coating Ultrasonic Thickness Gauge



Button Introduction



Power on/off; also used as back button in menus



Confirm Button



Backlight on/off



Sound velocity calibration; used as numerical adjustment key in number interface



Sound velocity reference; used as left arrow in menu interface



Menu access; used as right arrow in menu interface

Operating Instructions

Firstly, press the  to select mode, then press  to confirm the mode. Default mode is "Through Coating" ("ECHO-ECHO"/"E-E" mode).

1. Through Coating Mode Usage: "ECHO-ECHO" mode (Measure base material thickness through paint/coating without removal)

- 1.1 Insert probe into the main unit (The two plugs can be connected in either order).
- 1.2 Press  to Power on.
- 1.3 For steel/iron workpieces: measure directly without calibration.
- 1.4 For non-steel/iron materials:

1.4.1 Known material sound velocity: Input sound velocity value after checking material sound velocity table.

Method: Press  to enter sound velocity reference interface, press  to find corresponding value, press  to confirm. To modify, use left/right arrows to select digit, then use  to adjust value, press  to confirm.

1.4.2 Unknown material sound velocity: Measure and save sound velocity via reverse calculation.

Method: Find a location with known thickness of the same material (measure with calipers), press  to enter sound velocity calibration interface, use left/right arrows to select digit, input actual thickness value with  , press  to confirm. Place probe steadily on known thickness location with couplant until "CAL COMPLETED" appears. The calibrated sound velocity will then appear at the top of the screen, indicating the sound velocity calibration is finished. After calibration, this material with different thicknesses can be directly measured.

2. Standard Mode Usage: "STD" mode (Measure total workpiece thickness, including coating + base material)

2.1 Insert probe into main unit (The two plugs can be connected in either order).

2.2 Press  to Power on

2.3 For steel/iron workpieces: measure directly without calibration.

2.4 For non-steel/iron materials:

2.4.1 Known material sound velocity: Input sound velocity value after checking material sound velocity table.

Method: Press  to enter sound velocity reference interface, press  to find corresponding value, press  to confirm. To modify, use left/right arrows to select digit, then use  to adjust value, press  to confirm.

2.4.2 Unknown material sound velocity: Measure and save sound velocity via reverse calculation.

Follow same procedures as 1.4.2

Precautions

When battery is low:

BT-T7A: use new AA batteries.

BT-T7: Recharge and use only with standard charger and cable.

For any abnormalities, contact manufacturer. Do not disassemble unit yourself to avoid damage.

Specifications

Model Parameter	BT-T7A	BT-T7
Measuring Range	0.65~350mm (Standard mode, steel)	0.65~500mm (Standard mode, steel)
	3~25mm (Through coating mode, steel)	3~50mm (Through coating mode, steel)
Sound Velocity Range	500~18000m/s	500~18000m/s
Resolution	0.1mm	0.01mm
Accuracy	±(0.6%H+0.1)mm H = actual thickness	±(0.6%H+0.05)mm H = actual thickness
Operating Modes	Standard & Through Coating	
Units	Metric or Imperial (optional)	
Power Supply	2×AA batteries	Lithium battery
Operating Time	>100 hours (backlight off)	>160 hours (backlight off)
Dimensions	170×80×38mmm (L×W×H)	145*70*32mmm (L×W×H)

Standard Configuration List			
No.	Item	Quantity	Notes
1	Main Unit	1	
2	Standard Probe	1	
3	Instrument Case	1	
4	Warranty Card	1	
5	User Manual	1	
6	Charger, Charging Cable	1	Only BT-T7
7	Certificate of Conformity	1	

Warranty Card			
Purchasing Unit			
Product Name		Purchase Date	
Model		Serial Number	
Manufacturer	Guangzhou Botech Testing Instruments Co., Ltd.		

Certificate of Conformity			
Serial Number			
Product Name		Production Date	
Model		Inspector	01
Test Conclusion			