

TMTECK

Ultrasonic Thickness Gauge



TMTeck Instrument Co.,Ltd.

TMTeck Instrument Co.,Ltd.
www.tmteck-ndt.com

Ultrasonic thickness gauge TM210 Plus



TMTeck Instrument Co.,Ltd.

Features

- 1.Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials.
- 2.Transducer models are available for special application, including for coarse grain material and high temperature applications.
- 3.Probe-Zero function, Sound-Velocitiy-Calibration function.
- 4.Two-Point Calibration function.
- 5.Coupling status Indicator showing the coupling status.
- 6.Battery information indicates the rest capacity of the battery. Ultra-low power consumption, it is can continue working 100 hours.
- 7.Auto sleep and auto power off function to conserve battery life.
- 8.Usb port with Protective Membrane and datapro software to process the memory data on the PC.
- 9.Optional thermal mini-printer to print the measured data via USB port.

10, Adjust gain function, can easily test the cast iron material,

Specifications

Display: 128×64 LCD with LED backlight.
Measuring range: 0.75mm~300.0mm (0.03inch~11.8 inch)
Sound velocity: 1000m/s~9999m/s (0.039~0.394in/μs)
Display resolution: 0.01mm or 0.1mm (lower than 100.0mm)
0.1mm (more than 99.99mm)
Accuracy: ±(0.5%Thickness +0.02)mm, depends on Materials and conditions
Units: Metric/Imperial unit selectable.
Lower limit for steel pipes:
5MHz probe: F20mm×3.0mm(F0.8×0.12 inch)
10MHz probe: F20mm×3.0mm(F0.6×0.08 inch)
Power Source: 2pcs 1.5V AA size, batteries.100 hours typical operating time(LED backlight off).
Communication: USB serial port
Outline Dimensions: 150mm×74mm×32mm
Weight: 238 g
Four measurements readings per second for single point measurement,
Memory for up to 5 files(up to 100 values for each file) of stored values

Configuration

	No	Item	Quantity	Note
Standard Configuration	1	Main body	1	
	2	Transducer	1	Model: TM-08
	3	Couplant	1	
	4	Instrument Case	1	
	5	Operating Manual	1	
	6	Alkaline battery	2	AA size
	12	DataPro Software	1	
	13	Communication Cable	1	
Optional Configuration	7	Transducer: TM-12		Appendix A
	8	Transducer: TM-06		
	9	Transducer: HT5		
	10	Mini thermal printer	1	
	11	Print cable	1	

Probe optional for ultrasonic thickness gauge

Model	Freq. MHz	Diam. Min.	Measuring range	Lower limit	Description
TM-12	2	14	3.0mm-300.0mm (in steel)	20	For thick, highly attenuating, or highly

					scattering materials
TM-08	5	8	1.2mm-230.0mm (in steel)	∅ 20mm×3.0mm	Normal measurement
TM-08/90	5	8	1.2mm-230.0mm (in steel)	∅ 20mm×3.0mm	Normal measurement
TM-06	7	6	0.75mm-80.0mm (in steel)	∅ 15mm×2.0mm	For thin pipe or small curvature pipe wall thickness measurement
HT-5	5	13	3mm-200mm (in steel)	30	For high temperature measurement (up to 300℃)
HT5-2	5	13	3mm-200mm (in steel)	30	For high temperature measurement (up to 550℃)



Ultrasonic thickness gauge TM210B



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Features

- 1.Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials.
- 2.Transducer models are available for special application, including for coarse grain material and high temperature applications.
- 3.Probe-Zero function, Sound-Veloctiy-Calibration function.
- 4.Two-Point Calibration function.
- 5.Coupling status Indicator showing the coupling status.
- 6.Battery information indicates the rest capacity of the battery.
- 7.Auto sleep and auto power off function to conserve battery life.
- 8.Optional software to process the memory data on the PC.
- 9.Optional thermal mini-printer to print the measured data via USB port.
- 10,Adjust gain function ,can easy to test the cast iron material,

Specifications

Display	128×64 LCD with LED backlight.
Measuring range	0.75mm~300.0mm (0.03inch~11.8 inch)
Sound velocity	1000m/s~9999m/s (0.039~0.394in/μs)
Display resolution	0.01mm or 0.1mm (lower than 100.0mm) 0.1mm (more than 99.99mm)
Accuracy	±(0.5%Thickness +0.02)mm, depends on Materials and conditions
Units	Metric/Imperial unit seletable. Lower limit for steel pipes: 5MHz probe: F20mm´3.0mm(F0.8´0.12 inch) 10MHz probe: F20mm´3.0mm(F0.6´0.08 inch)
Power Source	2pcs 1.5V AA size, batteries.100 hours typical operating time(LED backlight off).
Communication	USB serial port
Outline Dimensions	150mm×74mm×32mm
Weight	238 g

Four measurements readings per second for single point measurement,
Memory for up to 5 files(up to 100 values for each file) of stored values

Configuration

	No	Item	Quantity	Note
Standard Configuration	1	Main body	1	
	2	Transducer	1	Model: TM-08
	3	Couplant	1	
	4	Instrument Case	1	
	5	Operating Manual	1	
	6	Alkaline battery	2	AA size
	12	DataPro Software	1	
	13	Communication Cable	1	
Optional Configuration	7	Transducer: N02		Appendix A
	8	Transducer: N07		
	9	Transducer: HT5		
	10	Mini thermal printer	1	
	11	Print cable	1	

Probe optional for ultrasonic thickness gauge

Model	Freq. MHz	Diam. Min.	Measuring range	Lower limit	Description
TM-12	2	14	3.0mm-300.0mm (in steel)	20	For thick, highly attenuating, or highly scattering materials
TM-08	5	10	1.2mm-230.0mm (in steel)	∅ 20mm×3.0mm	Normal measurement
TM-08/90	5	10	1.2mm-230.0mm (in steel)	∅ 20mm×3.0mm	Normal measurement
TM-06	7	6	0.75mm-80.0mm (in steel)	∅ 15mm×2.0mm	For thin pipe or small curvature pipe wall thickness measurement
HT-5	5	2	3mm-200mm (in steel)	30	For high temperature measurement (up to 300°C)
HT5-2	5	2	3mm-200mm (in steel)	30	For high temperature measurement (up to 550°C)



Ultrasonic Thickness Gauge TM220



FEATURES:

- HIGH ACCURACY AND RESOLUTION UP TO 0.001mm or 0.0001 inch
- MEASURING ULTRA THIN SAMPLE AS LOW AS 0.15mm or 0.006 inch
- DISPLAY UNITS : IMPERIAL and METRIC
- AUTOMATIC SELF CALIBRATION
- COUPLANT INDICATOR
- AUTOMATIC POWER OFF DEVICE
- HIGH-LOW LIMIT ALARM
- LCD BRIGHTNESS ADJUST
- LOW BATTERY INDICATOR

TECHNICAL SPECIFICATIONS:

Measuring Range (for	Interface-Echo Mode:	1.50mm – 20.0mm
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steel)	(I-E or Standard Mode)	(0.059in – 0.787 in)
	Echo-Echo Mode:	0.15mm – 10.0mm
	(E-E or High Precision Mode)	(0.006in – 0.394in)
Measuring Accuracy	±0.005mm or 0.0002 inch (if thickness < 3mm)	
	±0.05mm or 0.002 inch (if thickness < 20mm)	
Display Resolution	mm : 0.1 / 0.01 / 0.001	
	inch : 0.01 / 0.001 / 0.0001	
Sound Velocity Range	1000 to 9999 m/sec (0.0394 – 0.3936 inch/ms)	
Measuring Refresh Frequency	4Hz in normal mode, up to 25Hz	
Memory Capacity	500 test values	
Multiple Calibrations	One point or Two Point	
Display LCD	42×57mm LCD size with EI backlight and adjustable contrast, font size up to 13.75mm (0.54 inch)	
Power Source	2 pcs. 1.5v AA size batteries	
Continuous working period	About 200 hours (with backlight off)	
Power off	Auto power off if idle for 4 minutes	
Operating Temperature	-10 °C to +50 °C	
Unit Size	2.9 W x 5.9 H x 1.26 D inches (73 W x 149 H x 32 D mm).	
Weight	200g	

STANDARD DELIVERY:

1. Main Processor with Calibration block (4.00 mm)
2. Precision Probe (D11R) with Replaceable Delay Tip
3. Coupling Paste
4. Operation Manual
5. Consumer-Type 2 AA Type Alkaline Battery (3 Volt)
6. Carrying Case

Ultrasonic thickness gauge A&B Scan for testing rubber thickness TM281 Series



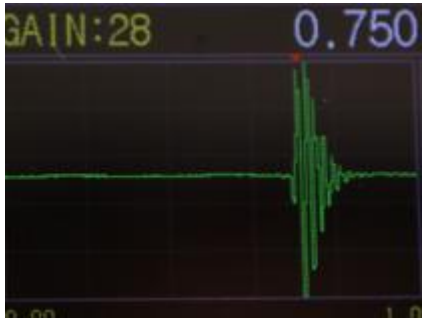
Product Description

TM281 Series Color Screen with A/B-Scan Ultrasonic Thickness Gauge Professional in Solving Various Difficult Thickness Measurement

Features:

2.4" color OLED, 320 X 240 pixels, display contrast 10,000:1

Live Color A-Scan



Users could directly see the color waveform of the ultrasonic sound (or A-scan) on the screen, which is quite important for the occasions that we need to check the correctness of the testing results. Many cases will cause wrong testing results or even no readings. We could find the causes easily through the A-scan. Adjust the three parameters of GAIN, BLACKING, GATE, and then we will get the right readings.

Live Color B-Scan



TM281 series thickness gauge has time base B-scan function. Move the probe along the workpiece surface, then the cross-sectional profile of the workpiece display, use for observe the underside contour of the workpiece. It could be automatically capture a minimum value of the B-scan image, and indicate the position of the minimum by a red triangle. You can see any point thickness value of the B-scan image by moving the pointer.

Through Coating Function

No longer need to waste time to remove the coating

Now TM281D and TM281DL also have this widely acclaimed function. It's realized by measuring the two continuous bottom surface of the substrate. This mode also has more advantages:

1. Exempt Zero Calibration
2. High Stability, the measuring value is not influenced by the probe pressure, the coupling layer thickness and the surface dust of the workpiece.
3. Zero Drift

More Practical Function

Difference/Reduction Rate: Difference mode displays the difference between the actual value and the normal value. Reduction rate calculates and shows the percentage of the thickness reduction when the material becomes thin. Typical application is to measure the

metal material which is due to bending and becomes thin.

Information displays: LOS, min, max, large reading while displaying min at the same time, velocity, zero, calibration, units, freeze, unfreeze, % battery life remaining, gain - low, std, high, echo to echo symbol

Max./Min. Capture: On this mode, the current thickness, minimum thickness and the maximum thickness will be shown on the screen at the same time.

Alarm Mode: Dynamic change the color of thickness readings when alarming.

Update Rate: Selectable 4Hz, 8hz and 16Hz. 4Hz for ordinary application, when you need a quick scan, such as high temperature measurement, you can choose higher update frequency.

Multi- Languages Available: Chinese, English, Spanish, German.

Echo to Echo: Measures the metal thickness only (ignore paint and coatings)

Data logger: 99999 thickness data logger with ID point in linear or grid files (400 files)

Output: USB 2.0 full speed connector. DataView report software

Size: 156mm (L) 76mm (W) x 1.25" (38 mm) (H)

Weight: 285 g

Temperature: Gage Operating: -10° C to 50° C

Standard TC510B Probe

The probe is the heart of the instrument, TMTeck has the world's leading probe production technology. TC510B probe uses the high performance piezoelectric ceramic chip, with integrated metal die-casting shell, practical design of probe and cable separated, regardless of costs to create high quality .

The Difference Between TM281 Series Ultrasonic Thickness Gauge

	TM281	TM281D
Color Display	√	√
Live A-Scan	√	√
Time-based B-Scan	√	√
Control of Gain and Gate	√	√
Blanking	√	√
Thru-paint&coatings	×	√
Data Logger	×	×
DataView Software	×	×

Specifications of TM281DL Ultrasonic Thickness Gauge


Display Type	2.4" color OLED, 320×240 pixels, display contrast 10,000:1
Operating Principle	Pulse echo with dual element transducers
Measuring Range	0.50mm to 508mm(0.02" to 20.00"), depending on material, probe and surface condition;E-E Mode:3-50mm under condition

Measuring Resolution	Selectable 0.01mm, 0.1mm(selectable 0.001", 0.01")
Units	Inch or Millimeter
Rectify Mode	RF+, RF-, HALF+, HALF-, FULL
Display Mode	Normal, Minimum/Maximum capture, DIFF/RR%, A-Scan, B-Scan
V-Path Correction	Automatic
Update Rate	Selectable 4Hz, 8Hz, 16Hz
Material Velocity Range	500 to 9999m/s(0.0197 to 0.3939 in/μs)
Languages	English, French, German,Japanese,Chinese
Alarm Settings	Minimum and Maximum alarms. Range of 0.25mm to 508mm (0.010" to 20.00"). Dynamic waveform color change on alarm
Power Requirements	2 AA size batteries
Operating Time	Approximately 40 hours
Instrument Shut-off	Selectable ALWAYS ON or AUTO OFF after 5, 10, 20 minutes of inactivity
Operating Temperature	-10°C to +50°C(+10°F to +12°F)
Size	158mm × 76mm × 37mm (H × W × D)
Weight	285g including batteries

Standard Delivery TM281DL

Name	Quantity
Main body	1
Probe	1
Battery	1
Couplant	1
Carrying Case	1
Operating Manual	1
USB Cable	1
Software	1

TM281 Probe/Transducer Specifications

PIC	Model	Type	Frequency	Contact Diameter	Measurement Range	Temperature Range
	PT-08	TM281 Standard	5MHz	11mm	0.8 to 100.0mm	-10 to 70°C

	TC510B	TM281D/D L Standard	5MHz	13.5mm	1.2 to 200.0mm	-10 to 70°C
	TC550	Small tube	5MHz	5mm	0.8-60 mm	-10 to 70°C
	ZT-12-2	Cast iron	2MHz	17mm	4.0 to 508mm	-10 to 70°C
	PT-06	Small tube	7.5MHz	8mm	0.8 to 30mm	-10 to 70°C
	PT-04	Fingertip	10MHz	6mm	0.7 to 12mm	-10 to 70°C
	GT-12-2	High- Temperatur e	5MHz	15mm	4 to 80mm	-20 to 300°C