

High Precision Digital Ultrasonic Thickness Gauge 128X64 Pixel LCD With Backlight TG4100B



Usage

Widely used to measure the thickness of metal materials. Especially display its advantage for measuring the thin piece and high precision measuring. What's more,

it can also through the thin coating layer and paint layer, and also be used to measure ultra thin wall with paint layer like fire extinguisher.

TECHNICAL DATA

Display 128X64 Pixel LCD with backlight

Measuring range 0.8 mm-- 300.0 mm in steel depending on the probe

Special request can reach measuring range up to 500mm

Tolerance +/-0.05 mm in steel

Display resolution 0.1 mm (TG4000B)/0.01mm (TG4100B)

Built-in standard block 4.00 mm

Memory 500 datas in 5 groups, memory does not lose after powering off

Velocity range 1000-9999 m/s

Power 2 pcs 1.2 V AAA batteries

Outside dimension 149X73X32 mm

Net Weight 160 g

FEATURES

Probe Zero Adjustment:

Selectable: 1-point calibration: normal measurement

2-point calibration: curve surface measurement or other
special application with a high precision

V-Path Correction: Automatic

Automatic self-calibration

Couplant indicator

Automatic power off in 5 minutes and manual power off function

High-low limit alarm

LCD brightness adjustable

Measurement Update rate: 4 Hz

Minimum value scanning (MIN Capture mode): catch the minimum value during the measurement.

Can modify systematical errors by using the 4mm standard block on the instrument.

Low battery indicator

Metric/imperial optional

Dataview for PC communication

STANDARD DELIVERY

TG4100B main unit

Hard carrying case

Couplant bottle

Standard 8 mm, 5 MHz probe PT-08 with cable

OPTIONAL ACCESSORIES

4 steps steel test block

7 steps metrics steel test block

5 MHz, 4 mm contact probe

10 MHz, 4 mm, contact probe

5 MHz high temp. probe

Probe cables

Water proof housing

Dataview CD and communication cable optional

PROBE OPTIONAL

Probe model Frequency Contact area Testing Range (steel) Contact Temp.

Cast iron probe ZT-12 2MHz 16.2mm 4.0-300.0mm --10--60°C

Standard probe PT-12 5MHz 12mm 1.0-200.0mm --10--60°C

Standard probe PT-08 5MHz 10mm 0.8-100.0mm --10--60°C

Small probe PT-06 7.5MHz 7.6mm 0.8-30.0mm --10--60°C

Small probe PT-04 10MHz 5mm 0.8-20.0mm --10--60°C

High temp. probe 5MHz 14mm 4.0-80.0mm up to 300°C

Standard Configuration

NAME	NUMBER
THICKNESS GAUGE	1
PROBE	1
ALKALINE BATTERY	2

COUPLANT	1
CARRYING CASE	1
OPERATING MANUAL	1

Optional Configurations

HIGH-TEMPERATURE PROBE	CAST IRON PROBE
SMALL PROBE	MINI PROBE
PROBE CABLE	STEPPED CALIBERATION BLOCK
RUBBER SHEATH	

Pipe Walls Measurement

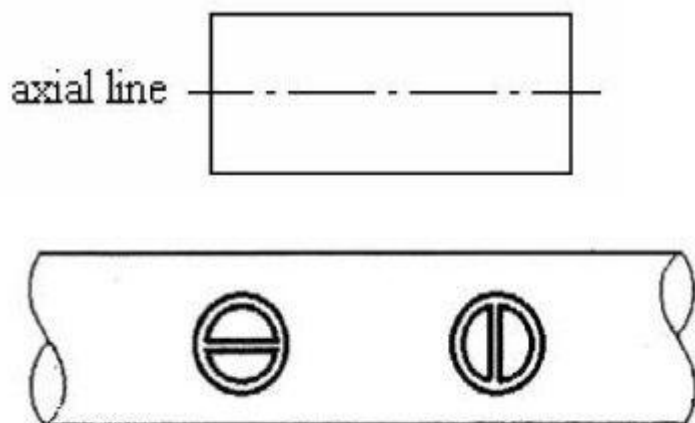
The thickness of a pipe can be measured accurately with this gauge. The measurement range is shown in the following table:

Probe type	Pipe diameter(mm)	Thickness(mm)
PT-08,10 and 12	$\geq \phi 40$	≥ 1.2

PT-06 $\geq \phi 30 \geq 0.8$

PT-04 $\geq \phi 20 \geq 0.8$

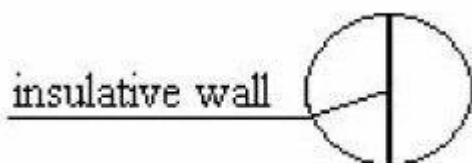
The split-plane of the probe may be along the pipe axis or perpendicular to it as shown in the following figures:



Pipe samples

In this case, the readings on the screen will change with some regular patterns and the smallest display value should be taken as the thickness value.

For small pipes, measurement should be made in both directions (moving probe a little bit). For large pipes, measure the thickness of the wall along the direction perpendicular to the pipe axis. See the following figure:



Bottom view of probe

Sound Velocities of Some Common Materials

Material Inch/μS		Sound Velocity M/s
Air	0.013	330
Alumina Oxide	0.390	9900
Beryllium	0.510	12900
Boron Carbide	0.430	11000
Brass	0.170	4300
Cadmium	0.110	2800
Copper	0.180	4700
Glass(crown)	0.210	5300
Glycerin	0.075	1900
Gold	0.130	3200
Ice	0.160	4000
Inconel	0.220	5700
Iron	0.230	5900
Iron (cast)	0.180	4600
Lead	0.085	2200
Magnesium	0.230	5800
Mercury	0.057	1400
Molybdenum	0.250	6300
Monel	0.210	5400

Neoprene	0.063	1600
Nickel	0.220	5600
Nylon , 6.6	0.100	2600
Oil (SAE 30)	0.067	1700
Platinum	0.130	3300
Plexiglass	0.110	1700
Polyethylene	0.070	1900
Polystyrene	0.0930	2400
Polyurethane	0.0700	1900
Quartz	0.230	5800
Silver	0.140	3600
Rubber, Butyl	0.070	1800
Steel, Mild	0.233	5900
Steel, Stainless	0.230	5800
Teflon	0.060	1400
Tin	0.130	3300
Titanium	0.240	6100
Tungsten	0.200	5200
Uranium	0.130	3400
Water	0.584	1480

Zinc	0.170	4200
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