

MISURATORE SPESSORI VENTESIMALE A-B Scan. ST-50 A-B SCAN



With work mode of E-E (echo-echo) and function of penetrating the coating
Display Screen: 320x240 dot matrix, 2.4 inch color screen.

A scan snapshot

Zero passage measurement

Adjusted gain

Biggest/minimum value caught

Difference/cut rate model

High/low limit alarm

The ultrasonic thickness gage uses dual element transducers for corrosion applications. It offers many basic features such as Min/Max Mode that measures and recalls the minimum thickness at a fast 20 readings per second, Freeze Mode to instantly capture critical thickness, and Zero Compensation, A-scan display for echo-echo measurement.

Measurements from one side

Ultrasonic thickness gages make instant digital measurements by transmitting sound into a material from one side, making it unnecessary to cut the corroded part.

Lightweight and pocket-size

These handheld gages are small enough to fit in a toolbox or inside your pocket. They are ideal for quick inspections in hard-to-reach areas.

Color-coded keypad

You can directly access many important measurement features for time-saving operation. Strategically located keys are grouped together by color for easy operation.

Large OLED display

The large numerals make it easy to read thickness measurements.

SPECIFICATION:

Thickness range: 0.6 mm - 508 mm, (0.008 - 20 inches)

depending on material, temperature and transducer selection

Material Velocity Calibration Range: 500 - 9999 m/s (0.0197 - 0.3937 in/uS)

PRINCIPLES

The ordinary ultrasonic thickness gauge with the principle pulse/echo method could do the test by the following two conditions.

1. The first underside echo must be higher than the gate. (The height of the electrical level of the gate is unadjustable)
 2. No other noise waves before the first underside echo are higher than the gate. (Otherwise, we will get the thickness where the noise wave are produced)
- For some conditions, the above situations could not be satisfied, for example, the highly corrosive near surface, coarse-grain materials (e.g. cast iron), aluminum, small diameter pipes, super thin sheet, super thick plate, rough surface, nonuniform inner structure, defect contained workpiece, lamination and so on which could not be tested by the ordinary gauges.

ST-5 will solve the above problems easily.

1. Make the first underside wave higher than the gate by adjusting the gain and height of the gate.
2. Invalidate noise waves before the first underside wave by the function of blanking.

Live Color A-Scan

The user 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. The uses for waveform: testing the correctness of thickness readings, finding out the causes of impacting the testing, and adjusting the parameters to solve the problems.

Gain

Adjust the amplification factor of echo signal, increasing and reducing by 1 dB by hand. It is quite effective for acoustic attenuation materials (e.g. cast iron).

BLANKING

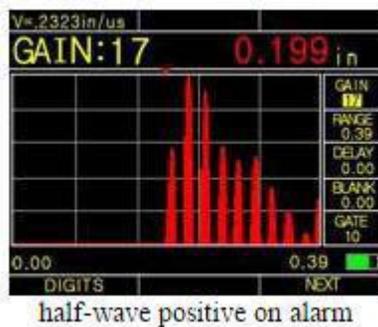
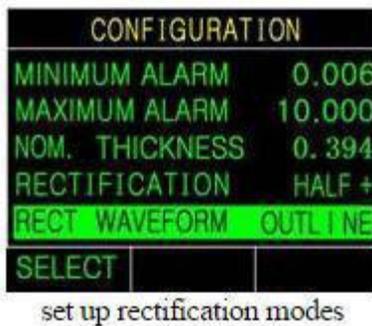
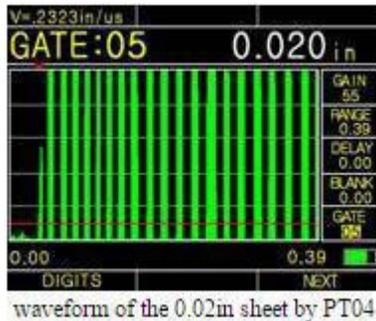
Invalidate the waves within the red blanking strip, and omit the useless noise waves that impact the measuring like the waves caused by the rough surface or nonuniform inner structure.



omit the front noise waves by blanking

ADJUSTABLE GATE

The gauge will get the reading only when the wave is higher than the gate. So the adjustable height of gate is very important, especially for the applications of low echo signals (e.g. super thin sheet, super thick plate).



ALARM MODE

The high limit and low limit of the Alarm could be set. Dynamic waveform and thickness reading color change on alarm.

REDUCTION RATE MEASURE

Differential Mode and Reduction Rate Mode are standard Features. Differential Mode shows the thickness variation from a pre-set thickness value. Reduction Rate calculates and displays the percent of thickness reduction after a material thinning process.

MIN./MAX. MODES

On this mode, the current thickness, minimum thickness and the maximum thickness will be shown on the screen at the same time. You could drag the probe along the surface of the work, and the minimum and maximum will be shown automatically on the screen.

RED ARROWHEAD

A red arrowhead is pointing at the measuring point in A-scan mode, and the thickness value is the horizontal ordinate of this point. It will help to judge the correctness of the reading. We will get the right reading if the red arrowhead is pointing at the advancing front of the first underside echo.

RANGE

Adjust the wave scope on the screen, and they are visually compressed or spreaded. Without the correct wave range, the wave may be out of the screen, but the right reading will still show.

DELAY

Adjust the initial position of the wave on the screen, the wave will be moved visually. Without the correct wave range, the wave may be out of the screen, but the right reading will still show.

The functions of RANGE and DELAY could magnify any section of the wave showing on the screen.

RECTIFICATION MODES

Four modes selectable: RF, Half-Wave Positive, Half-Wave Negative and Full Wave.

RF: describe the whole echo waveform.

Half-Wave Positive: show the Half-Wave Positive without the Half-Wave Negative.

Half-Wave Negative: upturn the Half-Wave Negative and dispose of the Half-Wave Positive.

Full Wave: show both the Half-Wave Positive and upturned Half-Wave Negative.

OPTIONAL VARIOUS PROBE

The V-path correction program for several probes is built in the gauge, including standard probe, small diameter tube probe, fingertip probe, cast iron probe, and high temperature probe. The frequency is ranging from 2 to 10MHz, and the size for the crystal from 4 to 12mm. Generally speaking, transducers with higher frequencies and smaller diameters allow measurements of thinner or curved parts and enhance the accuracy of the measurement.



Specifications and Accessories

Operating Principle:

Ultrasonic pulse/echo method with dual-element probes.

Measuring Range:

0.5-508mm; 0.02-20 inch

Depending on probe, material, surface condition and temperature

Unites and Resolution:

mm- 0.01; 0.1

inch- 0.001; 0.01

Display Modes

Digital Thickness Readout

A-scan or Waveform

Min./ Max. Capture

D-Value/ Reduction

V-path Correction:

Automatic V-path Correction, compensating the nonlinear characteristic of dual-element

Measuring Error:

±0.05mm (up to 25mm)

±0.2% H (up to 100mm)

±0.5% H (above 100mm)

Note: H is the height of the material.

Repeatability:

±0.05mm

Display Screen:

320×240 dot matrix,

2.4 inch color screen

Measuring Rate :

4 times per second

Material Velocity Range:

500~9999 m/s; 0.0197~0.3937 in/us

Operating Languages:

English



Reading in white means couplant well



Differential Mode and Reduction Rate Mode



Min./Max.modes, reading in red means alarm

MISURATORE SPESSORI VENTESIMALE A-B Scan. ST-50 A-B SCAN

Warranty:

2 years limit

Power Supply:

Two AA alkaline batteries

Operating Time:

More than 36 hours,
with two AA alkaline batteries

Auto Shut-off:

After 5 minutes of non-use

Operating Temperature:

-10°C~+50°C

Specification to -20 on request

Size:

153mm×76mm×37mm (H×W×D)

Weight:

280g, including batteries

Standard Package:

ST-5 thickness gauge

Standard probe

Carrying case

Two 1.5V AA alkaline batteries

Couplant

Operating manual

Accessories:

Several selectable probes; test block; couplants and high temperature couplant

