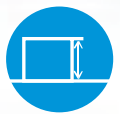# CTS-49
CTS-59
Ultrasonic Thickness Gauge

Through Coating

Auto Echo Search

Rotatable Screen

Two-point Calibration

Corrosion Application

SIUI

CTS-49/CTS-59

Small Size, Powerful Functions
——New Generation General-Purpose Thickness Gauge

The latest ultrasonic thickness gauge CTS-49 and CTS-59 are newly released by SIUI. To keep pace with the leading technology and the market requirements, CTS-49 and CTS-59 are the high-end thickness gauge models which combine the latest techniques, innovative design and complete inspection requirements. It is suitable for a wide range of applications, especially corrosion application.

Superior Features

- Compatible with different kinds of probes.
- Measurement range: 0.5~600mm.
- Compact size and weighs only 0.6kg including battery.
- 5" high resolution color TFT-LCD monitor with high-brightness LED backlight (visible under sunshine),800x480 pixels.
- Auto search function can automatically adjust display delay, display range, gain and measurement gate based on the detected echo.
- Normal (R-B1, transmission pulse to the first echo), velocity measurement, through coating measurement or echo to echo (B1-B2, or Bm-Bn), coating measurement functions available.
- One-point, Two-points and Fast Zero point calibrations available.
- Single and dual element probes for selection. CTS-59 can support dialogue thickness gauge probe to realize probe auto-recognition function, which can reduce display measurement data error.
- A/B scan functions.

Portrait and Landscape Screen/ Auto Gravtity Sensing Design

Portrait   Landscape

DataView Software

A Microsoft Windows based application is used to acquire, create, print and manage data on the CTS-49/59.

Measurement data will be displayed in color grid view mode for better data analysis.

* EN-15317 compliant

# Application Examples

COAT Measurement Function

Under Thru-Coating mode, after setting the painting velocity, through-coating thickness and coating-thickness can be displayed at the same time.

MULTI-Layers Measurement Function

For work piece with multi-layer materials and tight bonding between each layer, thickness measurement of each layer with known velocities as well as the total thickness, can be displayed.

V-PATH Function
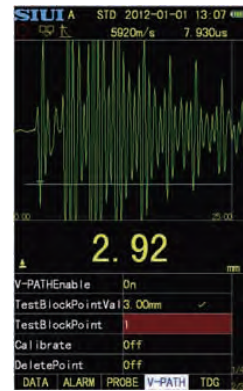
The system default sets a group of V-PATH calibration curve for all compatible dual crystal probes. Users can make a group of V-PATH curve corresponding to the probes to be used.

TEMP Function
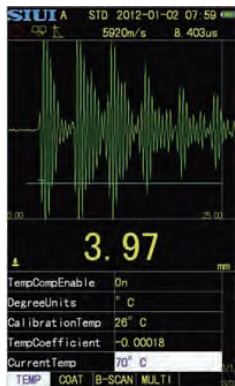
When there is temperature difference between the calibration block and the detected work piece, it can be used for temperature compensation.

TDG Function (Time Depth Gain Function)
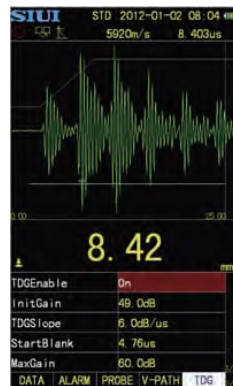
It can be used for compensating wave amplitude loss caused by transmitting sound path.
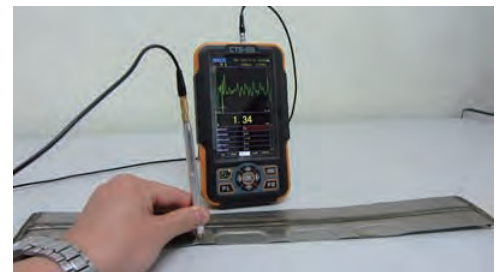
Multiple Connectors

- MicroSD card port
- I/O port (Reserved)
- MiniUSB port
- DC power input port

CTS-49 with 10MHz probe

CTS-59 measures the wing struts from a Piper PA-11 small aircraft

CTS-59 with pencil probe

Specifications

Model	CTS-49	CTS-59
Display Screen	800×480 pixels, 5" high-brightness color TFT-LCD monitor with high resolution LED backlight (visible under sunshine)	
Measurement Mode	Normal (R-B1, transmit pulse to the first echo)； Through coating or echo to echo measurement (B1-B2, or Bm-Bn)； All measurements using Zero Crossing.	
	——	With known coating velocity, coating thickness can be measured.
Measurement Range	0.5～600mm (subject to probe, material, temperature and selected configuration)	
Display Resolution	0.01mm / 0.1mm (0.001 in / 0.01 in)	
System Bandwidth (-3dB)	0.5MHz～20MHz	
Compatible Probes	Twin crystal probes(delay line probe) Single crystal probes(normal probe) Single crystal probes(delay line probe) High temperature probes/ Pencil probes	
	——	Smart-dialog twin crystal probes
Velocity Range	400～15000 m/s	
Gain	0-110dB manually adjustable(step:0.5/2/6/12dB)/auto (for auto-search)	
Auto Search	Off/On: With this function activated, proper display range and gain can be adjusted automatically based on the measured waveform echo, which improves measurement efficiency.	
A -scan Rectification	RF/Full/Positive/Negative	
Pulser	Negative square wave transmission, with pulse-width and voltage auto fits the probe	
Measurement times	4/8/16/32	
Display Error (With standard configured probe)	0.80mm ~ 9.99mm: ± 0.05mm 10.00mm ~ 99.99mm: ± (1‰H + 0.04)mm 100.0mm ~ 400.0mm: ± 3‰H mm 【Note】: H is thickness of the detected material.	
Tube Wall Thickness Measurement	With a standard configured probe, it can measure steel tube with diameter not less than 20mm and wall thickness not less than 2.0mm.	
Calibration	a. Fast zero point calibration with the built-in test block. b. User-defined calibration (one-point/two-point calibration)	
Measurement Function	Standard/ minimum/ maximum/ average/ difference	
Interface Mode	Standard /Simple menu measurement interface	
Other Functions	Velocity dynamic measurement, measurement value over-limit symbol, sound alarm, auto gain and freeze function.	
Portrait/Landscape Screen	Portrait/Landscape screen/auto (gravity-sensing auto switch), suitable for left/ right handedness	
B-scan	——	B-scan
Storage Function	Up to 10,000 sets of measurement data (including measurement value, velocity and multi file formats for application); Up to 500 sets of parameter data (such as measurement value and system setting)	Up to 20,000 sets of measurement data (including measurement value, velocity and multi file formats for application); Up to 500 sets of parameter data (such as measurement value and system setting)
Data Transmission	The data can be stored to a micro SD card and transferred to a PC via a card reader; It can also be transferred to a PC via the miniUSB port.	
Measure Unit	inch/mm	
Language	English/Chinese/Spanish/German/Japanese/Russian/Polish/Portuguese/French/Czech	
Auto Shutoff	Off/2/5/10/20/30 minutes for selection	
Operation Temperature	-10~45℃	
Power Supply	a. DC 12V power adapter b. ≥6 hours' operation with 7.4V rechargeable lithium battery set	
Battery Charge Time	a. With battery in the system: approx. 6 hours b. With external charger: approx. 3 hours (option)	a. With battery in the system: approx. 6 hours b. With configured external charger: approx. 3 hours
Dimension	105 mm × 180 mm × 42 mm (WxHxL)	
Weight	Approx. 600g with battery	
System Port	MiniUSB, micro SD card holder, DC-IN (DC12V input), LEMO 00 compliant (T/R)	
Software	——	COAT Measurement Function, MULTI Layers Measurement Function, V-PATH Function and TDG Function and TEMP Function.
EN Norm	EN-15317 compliant	