

# PANAMETRICS

## 25DL Multi-Mode Ultrasonic Thickness Gage with Internal Datalogger

[Panametrics 25DL Specs](#)  
Provided by [www.AAATesters.com](http://www.AAATesters.com)



# 25DL

- ▶ Easy to use
- ▶ Uses contact, delay line, and immersion transducers
- ▶ Application Auto-Recall with Stored Standard and Custom Setups
- ▶ Wide thickness range
- ▶ Measures most materials
- ▶ Resolution up to 0.0001" (0.001mm)
- ▶ Handheld
- ▶ Large backlit display
- ▶ Alarm functions
- ▶ Long battery life
- ▶ Inches/mm
- ▶ Alphanumeric datalogger
- ▶ Multiple on-screen languages
- ▶ Computer interface
- ▶ Two year warranty

## High Precision Thickness Measurements with Reliability and Simplicity

The 25DL Ultrasonic Thickness Gage makes extremely accurate thickness measurements (0.0001" or 0.001mm resolution) in most engineering materials. It is also designed with one basic goal in mind — simplicity of operation regardless of the complexity of your applications.

The Model 25DL utilizes ultrasound to make accurate thickness measurements on most materials including steel, plastic, rubber, glass, and composites in just seconds. This easy-to-use handheld gage provides instant digital readings on a large backlit LCD. An internal datalogger stores over 5000 thickness readings with alphanumeric identification codes which later can be uploaded to a computer or directly sent to a printer.

**Worldwide  
Applications Assistance**  
*For a free application evaluation, please send a sample of your material to our extensive testing lab at Panametrics' headquarters in Waltham, MA, or to one of our many sister companies and sales agents worldwide.*

### The Panametrics Advantage

Quality takes priority at Panametrics. When you purchase a Panametrics thickness gage, you'll also receive the advantage of more than thirty years of experience in manufacturing ultrasonic testing equipment of outstanding workmanship. We are continuously on the forefront of ultrasonic technology, introducing innovative solutions. The 25DL is the latest example of Panametrics' commitment to bring you state-of-the-art products.



# Extensive Data Collection for Fast and Reliable Documentation

## Internal Datalogger

The 25DL's extensive internal datalogger allows you to store, recall, and transmit over 5000 thickness readings along with Identification Codes. To store data, simply press the SAVE key. The 25DL's datalogging capabilities save time by eliminating the need for manual data recording. All stored information can be transmitted from the 25DL to a computer or printer for statistical analysis.

## Alphanumeric Identification Codes

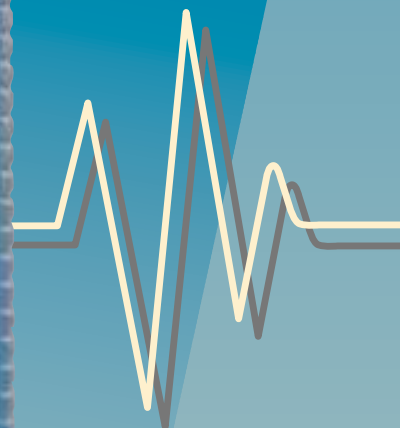
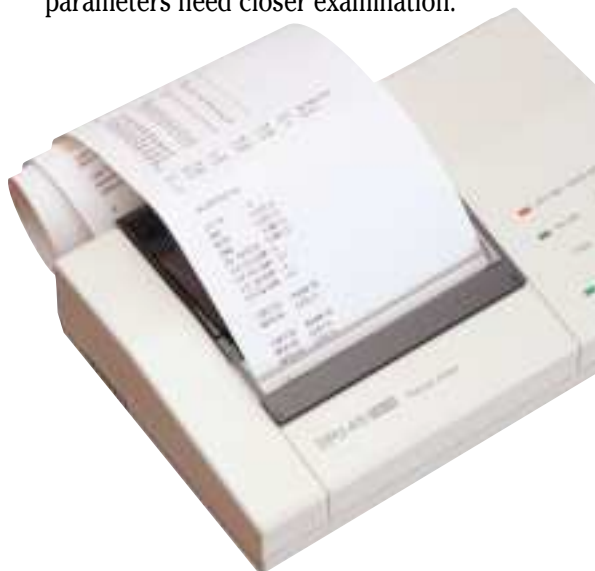
You can assign up to 10 alphanumeric characters to each stored thickness measurement. Each thickness reading is fully documented with parameter information such as material sound velocity, transducer data, and measurement mode.

## On-board Statistics Calculator

The Statistics Calculator is useful in situations when you don't have access to a computer but still want to see your thickness data with statistical output. You can use the 25DL's internal datalogging functions to generate reports that can be transmitted directly to your printer.

## PC Scope

The innovative 25DL PC Scope feature allows you to instantly display the live ultrasonic waveform with gates and thickness readings directly on your computer screen. This is ideal for difficult applications or when setup parameters need closer examination.





# The 25DL is an All-In-One Solution for a Wide Range of Thickness Gaging Applications

Multi-measurement modes using contact, delay line, and immersion transducers enable the 25DL to be the ideal solution for almost any thickness measurement application problem:

<b>Metal:</b>	Coils, Containers, Plates, Machined Parts, Cast Parts, Turbine Blades, Cylinder Bores, Tubing
<b>Plastic:</b>	Bottles, Containers, Drums, Hot Plastics, Pipes, Tubes, Preforms, Sheets
<b>Glass:</b>	Bottles, Bulbs, Tubes
<b>Rubber:</b>	Sheets, Tubes, Belts, Tires
<b>Fiberglass:</b>	Boat Hulls, Storage Tanks, Pipes
<b>Composites:</b>	Panels, Radomes, Structures

## Panametrics also has available the Models 25DL-HP and 25DL-RR

The Model 25DL-HP High Penetration's capability is ideal for thickness measurements on fiberglass, rubber, composites, and castings.

The Model 25DL-RR calculates and displays the percent of thickness reduction after any material thinning process.

## The Ultrasonic Advantage

Ultrasonic thickness measurements are accurate, reliable, repeatable, and most importantly, nondestructive. With the 25DL you achieve instant digital measurements by transmitting sound into the test part from only one side, making it unnecessary to cut or section parts. Save material, time, and labor in applications where the opposite side is difficult or impossible to access.



### Thin Material/High Resolution

*The 25DL measures thin steel down to 0.006" (0.15mm) or plastic as thin as 0.003" (0.08mm).*



### General Purpose

*The 25DL measures materials such as steel up to 20" (500mm) and even rubber, fiberglass, and castings.*



### Special Applications

*The 25DL measures in areas that are sharply curved or hard to reach using the Sonopen® or immersion transducers.*

# Application Auto-Recall Simplifies Gaging!

The 25DL's unique feature, Application Auto-Recall, simplifies making thickness measurements whether you have one or multiple applications. Select any of the listed standard transducers and the 25DL recalls all relevant internal parameters.

## Stored Standard Setups

The standard transducers enable you to measure the thickness of most product materials, from very thin plastics to thick steel. A benefit of the 25DL is that all Standard Setups for these transducers are already stored in the gage's memory. For easy, fast, and reliable thickness measurements, simply recall one of the Standard Setups.

## Stored Custom Setups

Just in case your application problem cannot be solved with one of the Standard Setups, the 25DL's versatility is enhanced by its capability to create, store, and recall 16 Custom Setups.

Transducer Part Number	Frequency MHz	Transducer Element Dia.	
<b>Contact Transducers:</b>			
M116	20	0.125"	3mm
M112	10	0.25"	6mm
M1016	10	0.125"	3mm
M110	5.0	0.25"	6mm
M109	5.0	0.50"	13mm
M106	2.25	0.50"	13mm
M1051	2.25	0.25"	6mm
<b>Delay Line Transducers:</b>			
M208	20	0.125"	3mm
V260	15	0.125"	3mm
M202	10	0.25"	6mm
M206	5.0	0.50"	13mm
M207	2.25	0.50"	13mm

*The versatile 25DL can be used with a variety of in-stock standard contact, delay line, and immersion transducers. Most applications only require one of the standard ultrasonic transducers listed above. In addition, Panametrics has available hundreds of special transducers.*

## Transducers, Bubblers, and Test Blocks





## MEASUREMENT MODES:

Mode 1: Time interval between excitation pulse and first backwall echo. Using contact transducers.

Mode 2: Time interval between the first interface echo after the excitation pulse and the first backwall echo. Using delay line or immersion transducers.

Mode 3: Time interval between successive backwall echoes following the first interface echo after the excitation pulse. Using delay line or immersion transducers.

## THICKNESS MEASUREMENT RANGE:

Steel: 0.006 - 20 inches (0.15 - 500mm).\*

Plastic: 0.003 - 2 inches (0.08 - 50mm).\*

Extended thickness ranges are possible using custom setups.

## MATERIAL VELOCITY RANGE:

0.02000 - 0.55110 inch/ $\mu$ S

(0.5080 - 13.9979mm/ $\mu$ S).

## RESOLUTION, keypad selectable:

LOW: 0.01" 0.1mm

STANDARD: 0.001" 0.01mm

HIGH: 0.0001" 0.001mm

## MEASUREMENT RATE, keypad selectable:

1, 2, 5, or 10 measurements per second.

## BATTERY:

6V Rechargeable NiCad battery pack.  
Optional replaceable alkaline "AA" cells.

## BATTERY LIFE:

30 hrs nominal (normal operation), Nicad.  
Optional alkaline "AA" cells approximately 70 hours.

## LOW BATTERY INDICATOR:

Active display shows percentage of remaining battery life. Symbol blinks when voltage becomes low.

## BATTERY CHARGE TIME:

7 hours using provided charger.

## CHARGER:

External wall plug-in charger/AC Adapter for 100/115/230 VAC inputs.

## AUTO POWER OFF:

Unit automatically shuts off 6 to 18 minutes (selectable) after last measurement or keystroke. Also when voltage is too low.

## RECEIVER BANDWIDTH:

2 - 30MHz (-3dB).

## OPERATING TEMPERATURE:

-10° C to +50°C.

## KEYPAD:

Sealed color coded keypad with tactile and audible feedback.

## SIZE:

L7.70 x W3.39 x D1.70"

L195.6 x W86.2 x D66.9mm.

Depth at display is slightly larger.

## WEIGHT:

1 lbs. 3oz. (0.59Kg).

## THICKNESS DISPLAY:

5-Digit LCD with Backlight. 0.5" (12.7mm) numerals. Viewable area 2.2" x 1.5" (56.3 x 38.4mm).

## BACKLIGHT, keypad selectable:

Electroluminescent backlit display. Contrast keypad adjustable.

## DISPLAY MIN/MAX MODE, keypad selectable:

Displays current thickness, minimum thickness, or maximum thickness depending on setting.

## DISPLAY HOLD/BLANK, keypad selectable:

Display blanks after last reading or holds reading.

## ALARM MODE, keypad selectable:

Programmable Hi-Low alarm setpoints with audible and visual indicators.

## DIFFERENTIAL MODE, keypad selectable:

Displays thickness difference between actual measurement and preset reference value.

## APPLICATION AUTO-RECALL:

The 25DL automatically adjusts internal parameters and zero offset for a wide variety of transducers.

## STORED STANDARD SETUPS:

15 stored transducer setups to allow fast, easy calibration for Panametrics standard transducers.

## STORED CUSTOM SETUPS:

Up to 16 stored custom transducer setups for best performance in special applications.

## PC SCOPE:

Allows measurement waveform with gates and thickness readings to be viewed live on a computer.

## METRIC/ENGLISH UNITS, keypad selectable:

Allows instant conversion between English and metric units.

## MULTI-LANGUAGE DISPLAY:

Keypad selectable display languages. Included are English, French, German, and Spanish.

**OTHER STANDARD 25DL FEATURES:** Calibration Lock Mode, Internal Diagnostic Test Mode.

## Internal Datalogger

### DATALOGGER AND RS-232:

The 25DL will identify, store, recall, clear, and transmit thickness readings and gage setup information via the full duplex RS-232 Serial Port.

### MAX. # OF STORED VALUES:

Over 5,000 thickness readings.

### STORED DATA DOCUMENTATION:

Each saved thickness reading is fully documented with measurement status flags and a setup number which identifies parameters such as velocity, transducer, etc.

### IDENTIFICATION CODES:

10 character alphanumeric Identification Code system identifies or locates stored data.

### AUTO INCREMENTING:

Datalogger automatically advances to the next alphanumeric identification code, starting at the right most character.

### ON-BOARD STATISTICS CALCULATOR:

Permits statistical reporting directly to Serial Printer.

### BAUD RATE, keypad selectable:

1200, 2400, 4800, or 9600.

### WORD LENGTH, keypad selectable: 7 OR 8 bits.

### STOP BITS, keypad selectable: Even, odd, or none.



ISO 9001 Certified

## Ordering Information

Model 25DL Digital Ultrasonic Multi-Mode Thickness Gage, AC or Battery Operation, 50-60Hz, with Internal Alphanumeric Datalogger. Including:

Charger/Adapter (100, 115, 230VAC)

Transducer Cable

Test Block

Couplant

RS-232 I/O Cable

Carrying Case

Instruction Manual

Two Year Limited Warranty

## Optional Accessories

25DL/SPC Protective Pouch with Neck Strap

25DL/DLIP Interface Program

25DL/EW Extended Limited Warranty, 3rd Year

25SM PC Scope

26PR Portable Printer, 80 column, Battery or 115 VAC

2214Et 5-Step Test Block, 1018 steel, English Units: .100", .200", .300", .400", .500"

2213Et 5-Step Test Block, Aluminum, English Units: .100", .200", .300", .400", .500"

26DL/OCC Heavy Duty Shipping Case

†Test Blocks are available in metric units.

*Please contact Panametrics for other accessories available with the model 25DL.*



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\*Thickness range depends on material, transducer, surface condition, temperature, and SETUP selected.  
All specifications are subject to change for product improvement without notice.