



Features

- A-scan display for waveform verification
- Wide thickness range: 0.003 to 20.00 inches (0.08 mm to 508.00 mm)
- Resolution up to 0.0001 inch (0.001 mm)
- Uses contact, delay line, and immersion transducers
- Internal alphanumeric file-based datalogger stores 18,000 thickness or 1,750 waveforms
- Application auto-recall with stored standard and custom setups

Precision Thickness Gage for Multilayer Materials

The Panametrics-NDT™ Model 25 MULTI PLUS is an advanced ultrasonic precision thickness gage with several unique measurement capabilities. In addition to making thickness measurements on metal, plastic and many other materials with varying thickness ranges, the 25 MULTI PLUS has the ability to calculate and simultaneously display up to four separate measurements. The Summation Mode accurately displays the total thickness of selected layers.

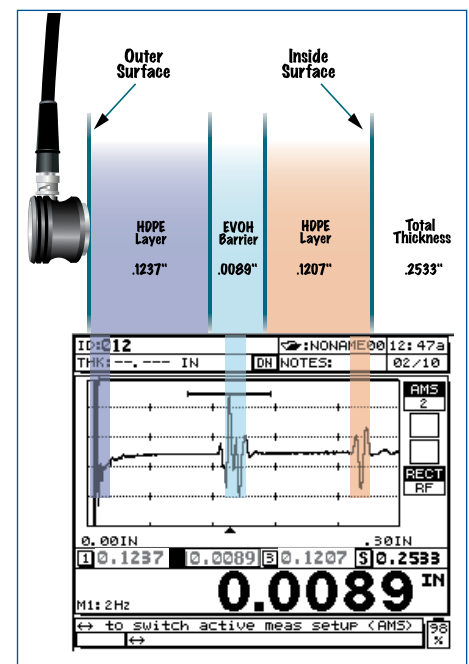
Another unique feature of the 25 MULTI PLUS is the Barrier Layer Mode. This feature makes it possible to measure critical barrier layers in multilayer plastic parts such as gas fuel tanks and bottle preforms. This special mode displays the thick-

ness of thin barrier layers that are typically too difficult to measure with conventional ultrasonic thickness gages because of lack of separation between the echo from the front and back of the barrier layer.

The 25 MULTI PLUS is ideal for the following applications:

- Multilayer fuel tanks
- Multilayer plastic bottle preforms
- Calculating radius of curvature and the thickness of contact lenses
- Multilayer aircraft windows
- Co-extruded plastic
- Two layer hot tubs and spas
- Two layer automotive air intake ducts

Multilayer Fuel Tank Measurement



The 25 MULTI PLUS calculates and simultaneously displays thickness measurements of up to four individual layers. It also displays the total thickness of selected layers.

The 25 MULTI PLUS measures the thickness of barrier layers in applications such as plastic fuel tanks and bottle preforms.

25 Multi Plus Specifications*

MEASUREMENT

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 to 20.00 inches
(0.150 to 508.00 mm)[†]

Plastic: 0.003 to 2.00 inches
(0.08 to 50.00 mm)[†]

Thickness range depends on material, transducer, surface condition, temperature, and SETUP selected.

Barrier Layer Plastic Mode: Only for Modes 1 and 2, Thickness Range 0.004 to 0.020 inches (0.100 to 0.50 mm).*

Multilayer Measurement Mode:

Simultaneously displays up to four thickness measurements.

Summation Mode: Displays the sum of up to three layer thickness measurements.

Material Velocity Range:

0.02000 to 0.55110 inch/ μ S
(0.5080 to 13.9979 mm/ μ S)

Resolution: (keypad selectable)

LOW:	0.01 inch	0.1 mm
STANDARD:	0.001 inch	0.01 mm
HIGH:	0.0001 inch	0.001 mm

Transducer Frequency Range:

2 to 30 MHz (-3 dB)

Min/Max Mode

Two Alarm Modes: Programmable Hi-Low alarm with audible and visual indicators

- 1) Standard Hi-Low
- 2) Previous thickness

-Absolute
-Percentage

Two Differential Modes:

- 1) Thickness difference between actual measurement and reference value
- 2) Percent difference between actual measurement and reference value

Application Auto-Recall: Automatically adjusts internal parameters and zero offset for a wide variety of transducers.

Stored Standard Setups: 25 stored transducer setups to allow fast, easy calibration for our standard transducers.

Stored Custom Setups: Up to 35 stored custom transducer setups for best performance in special applications.

POWER SUPPLY

Battery: 6 V rechargeable NiCad battery pack

Battery Life: 25 hours in normal measurement mode with backlight off

Fast-Charger: Two-hour fast charger with universal voltage

GENERAL

Keypad: Sealed color-coded keypad with tactile and audible feedback

Case: Water-resistant, gasketed Lexan[®] case with sealed connectors

Metric/English Units

Auto Power Off: On or off

Size: 9.375 x 5.45 x 1.5 inches
(238 x 138 x 38 mm)

Weight: 2.1 lbs (0.95 kg)

Operating Temperature:

-10°C to +50°C. (+14°F to 122°F)

DISPLAY

Display: Liquid crystal display with backlight. Contrast keypad adjustable. Display area 4.0" x 3.39" (102 x 86 mm)

Backlight, Zoom Mode, Freeze Mode and Hold/Blank

Rectification: RF, half wave positive or negative, and full wave

Waveform Display Range and Delay Control

INTERNAL DATALOGGER

Datalogger and RS-232: Identifies, stores, recalls, clears, and transmits thickness readings, waveform images, and gage setup information via the RS-232 serial port. Baud rate, word length, stop bits, and parity are adjustable from the keypad.

Maximum # of Stored Values:

Standard: 18,000 thickness readings or 1,750 waveforms with thickness

Upgrade 1: 36,000 thickness readings or 3,400 waveforms with thickness

Upgrade 2: 54,000 thickness readings or 5,100 waveforms with thickness

Location Codes: 8-character file name plus 16-character alphanumeric location code input. Multiple comments per location.

File Structures: Seven standard or custom application-specific file structures

Reports: On-gage reporting of summary with statistics, min/max with locations, and file comparison. On-screen comparison of current and previous readings

STANDARD INCLUSIONS

Model 25 Multi Plus Digital Ultrasonic Multilayer Thickness Gage, AC or battery operation, 50-60Hz, with internal alphanumeric datalogger

Including: Universal quick charger/AC adapter, transducer cable, test block, couplant, RS-232 I/O cable, carrying case, instruction manual, and a two year limited warranty

OPTIONAL ACCESSORIES

PLUS/RPC: Rubber protective case with stand/straps

36DLP/SPC/KIT: Protective pouch with neck strap

GAGEVIEW: Interface program

25DLP/EW: Extended limited warranty, 3rd year

2214E:[†] 5-Step test block, 1018 steel, English units: .100", .200", .300", .400", .500"

2213E:[†] 5-Step test block, aluminum, English Units: .100", .200", .300", .400", .500"

26DLPLUS/HDC: Heavy duty shipping case

[†] Please contact us for other accessories available with the Model 25 MULTI PLUS.

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