

# AS EASY AS A-B-C:

EHC-09

Wave

# A IS FOR A-SCAN B IS FOR B-SCAN AND C IS FOR COLOR DISPLAY...

IP54 RATED

- LIVE SIMULTANEOUS COLOR WAVEFORM AND THICKNESS DISPLAY
- DYNAMIC WAVEFORM COLOR CHANGE ON ALARM
- CONTROL OF GAIN, BLANKING, RANGE, RF AND RECTIFY MODES
- AVAILABLE IN MULTIPLE MODELS



With more than 75 years of world-wide experience in Ultrasonic designs, Danatronics is proud to pioneer the world's first hand held ultrasonic thickness gage with color display; our EHC09 color wave series. Unique features include live **COLOR** A-Scan, B-Scan, 100K thickness reading (3500 waveforms) datalogger with interface program, vibration and **COLOR** change of waveform on alarm.

Auto range centers echoes in the middle of the screen independent of material thickness. The blanking and gain adjustments are ideal for complete waveform adjustment and control. The echo to echo feature can ignore the paint or coating thickness. The waveform option can even be added to our popular EHC-09 gages.

For more information, call us at **978-777-0081** or email **sales@danatronics.com** or visit **www.danatronics.com** to arrange a demonstration.

## TYPICAL APPLICATIONS:

- Boiler Tubes
- Pressure Vessels
- Storage Tanks
- Ship Hulls
- Containers
- Home Oil Tanks
- Pipes
- Steam lines
- Compressors
- Shafts
- Bridge Pins
- Bond Inspection

*Software options are field upgradeable, there is no need to plug in a USB cable or return the unit to our factory.*



**DANATRONICS**  
N D T  
Made/Easy

**Size:** 5" (127 mm) (L) x 3" (76.2 mm) (W) x 1.25" (31.75 mm) (H)

**Weight:** 8 OZ (.23 kg)

**Thickness range:** 0.020 - 20 inches (.50 mm - 508 mm) in steel, depending on material, temperature and transducer selection

**Material Velocity Calibration Range:** 0.0200 - 0.7362 in/ $\mu$ S (0.508 - 18.699 mm/ $\mu$ S)

**Temperature:** Gage Operating: -4° F to 122° F (-20° C to 50° C)  
High temperature transducers available for material temperatures from -5° F to 950° F (-20° C to 510° C)

**Battery life:** 8 -14 hours (depends on operating conditions)

**Battery type:** 2 "AA" Alkaline

**Color Display:** 170 X 220 pixels, high resolution TFT color display, sunlight readable

**Language support:** multi language of English, French, Spanish, Italian, Czech, German, Portuguese, Slovak, Finnish, and Hungarian

**Information displays:** Loss of signal (LOS), min, max, large reading while displaying min at the same time, velocity, zero, calibration, units, freeze, unfreeze, % battery life remaining, gain - low, std, high, echo to echo symbol

**Resolution:** .001" (.01 mm), .01" (.1 mm)

**Probe Recognition:** Via pick list from a menu

**Delay line zero measurement:** Auto at power up with listed numeric value. Ideal for correcting delay line wear/curvature and for transducer acoustic drift at elevated temperatures

**Package:** IP54 Rated, Custom, splash-proof, high impact plastic with illuminating rubber keypad for go/no-go testing

**Bandwidth:** 0.5-20 MHz (-3dB)

**Units:** English/Metric/Microseconds

**Gain:** Low, Standard and High for varying test conditions (for gages without a waveform) or 1 dB steps from 20-90 dB or Automatic Gain Control (AGC) for gages with a waveform

**Differential Mode:** Displays the difference from the actual thickness measurement in absolute or percentage of a user entered reference value

**Alarms:** Minimum/Maximum depth, vibrates, beeps and display flashes as well as keypad illumination

**Illuminating keypad:** F1 = Red, F2 = Yellow and F3 = Green for easy, go/no-go testing

**Ergonomics:** User selectable lefty or righty display changes via keypad

**Backlight:** Light Emitting Diode (LED), On/Off or Auto On based on valid readings or last key press

**Shut off:** Auto, user programmable time out (1-31 minutes), after no reading/key press or never shut off

**Protective Pouch:** Custom molded pouch with belt clip and wrist strap for either lefty or righty operators (optional, standard with DLC and DLCW).

**Transport case:** Hard Plastic with high density molded foam cut out for gage and most accessories

**Freeze mode:** Freezes display (ideal for high temperature applications)

**Hold mode:** Holds display to retain last thickness reading

**Standard EHC-09 Wave Series includes:** Ultrasonic thickness gage, DKS-537, 5 MHz 0.375 inch diameter potted cable, operational manual, Data XL interface program, couplant, and transport case. See chart below for standard inclusions for each gage

**Warranty:** Limited 2 year warranty on parts and labor for gage only under normal use

**Transducers:** A wide variety of dual transducers from 1-10 mhz, high temperature duals, delay lines and pencil probes

Item	Specification	EHC-09DLCW	EHC-09DLC	EHC-09CW	EHC-09C
Thickness range:	0.020 - 20 inches (.50 mm - 508 mm) in steel	✓	✓	✓	✓
Delay line zero measurement:	Auto at power up with listed numeric value. Ideal for correcting delay line wear/curvature and for transducer acoustic drift at elevated temperatures	✓	✓	✓	✓
Scan mode:	Simultaneously displays minimum or maximum and actual thickness value at 20 measurements per second	✓	✓	✓	✓
Differential Mode:	Displays the difference from the actual thickness measurement and a user entered reference value	✓	✓	✓	✓
Alarms:	Minimum/Maximum depth, vibrates, beeps and display flashes as well as keypad illumination and vibration	✓	✓	✓	✓
Illuminating keypad:	F1 = Red, F2 = Yellow and F3 = Green for easy, go/no-go testing	✓	✓	✓	✓
Velocity Mode:	Displays acoustic sound speed	✓	✓	✓	✓
Echo to Echo:	Measures the metal thickness only (ignore paint and coatings)	✓	✓	✓	✓
Range:	Adjustment of manual range control or auto zoom tracking to center echoes independent of selected range	✓	○	✓	○
Rectification Modes:	RF, Half Wave Positive, Half Wave Negative and Full Wave Rectification	✓	○	✓	○
Live Waveform (A-scan):	Full adjustments, for gain in 1db step or AGC, main bang blank, blank after first received echo, range including zoom auto tracking to center echoes independent of material and rectification	✓	○	✓	○
B-Scan (Encoded or Non-Encoded)	Displays a cross section of the test piece with optional encoder and factory upgrade	✓	✓	○	○
Datalogger:	Upgrade to Data Logger Version, 100,000 readings in linear, 2D, 3D grid or boiler alphanumeric files, 20 character file name, file compare, grid review and export to excel via Data XL interface program, also compatible with Ultrapipe	✓	✓	○	○

○ = Software options that are field upgradeable, no need to return the unit to the factory

# CAN YOUR ULTRASONIC THICKNESS GAGE DO THIS?

- Live A-scan for echo verification
- Vibrate Gage on minimum thickness alarm
- Echo to Echo to ignore coatings
- 100,000 thickness datalogger (includes B-scan) with export to Microsoft Excel™
- Field upgradeable options
- Multi-language support

## We didn't Think So.

With more than 75 years of world-wide experience in ultrasonic designs, Danatronics offers our complete line of portable, digital, hand-held ultrasonic thickness gages; the EHC-09DLW, EHC-09DL, EHC-09, EHC-09B and newest EHC-09A. The EHC-09 series of ultrasonic thickness gages are specifically designed to measure from one side only the remaining wall thickness of primarily steel structures subject to corrosion.

### EHC-09A

The EHC-09A is our entry level ultrasonic thickness gage packaged in the same field proven IP54 rated case with rubber keypad as the rest of our EHC-09 Series. The standard probe can measure steel from .040-20" (1-508mm) while offering full field upgradeability to echo to echo to ignore coatings, 100K datalogger as well as A-Scan and B-Scan.

### EHC-09B

The EHC-09B is our general purpose model ultrasonic thickness gage designed to make reliable, accurate thickness readings on mostly steel structures. The EHC-09B offers a simple user interface, can be used with all the transducers of the EHC-09 and Datalogger version and is easily upgraded in the field to the EHC-09, EHC-09DL and EHC-09DLW, no need to return the unit to the factory.

### EHC-09

The EHC-09 is our mid-range model combining the most commonly used features such as Echo to Echo to ignore coatings. With the EHC-09 you can increase or decrease the gain, vibrate and illuminate the keypad on alarm conditions. We offer a simple, field upgradeable path to add the 100,000 thickness reading datalogger with B-scan and live waveform for echo verification.

### EHC-09DL/EHC-09DLW

The EHC-09DL/EHC-09DLW are the top of the line models offering all the same features of the EHC-09 plus our flexible datalogger, B-Scan and Echo to Echo. It also includes a custom molded pouch with belt clip and elastic strap to easily hold the unit in either the left or right hand. The EHC-09DLW has live waveform.

*See product differentiation chart for more details.*

## Additional features:

- Two point calibration
- Graphic display with multi language support
- Field upgradeable options (no need to take the unit out of the field)
- Made in USA
- 2 year warranty



For more information, call us at  
**978-777-0081** or email  
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or visit [www.danatronics.com](http://www.danatronics.com)  
to arrange a demonstration.



**SMALLEST THICKNESS  
GAGE WITH  
LIVE WAVEFORM!**

**Size:** 5" (127 mm) (L) x 3" (76.2 mm) (W) x 1.25" (31.75 mm) (H)

**Weight:** 8 OZ (.23 kg)

**Thickness range:** 0.020 - 20 inches (.50 mm - 508 mm) in steel, depending on material, temperature and transducer selection

**Material Velocity Calibration Range:** 0.0200 - 0.7362 in/μS (0.508 - 18.699 mm/μS).

**Temperature:** Gage Operating: -4° F to 122° F (-20° C to 50° C) High temperature transducers available for material temperatures from -5° F to 950° F (-20.5° C to 510° C)

**Battery life:** Up to 50 hours (20 hours with backlight on)

**Battery type:** 2 "AA" Alkaline

**Display:** 128 X 64 Graphics LCD monochrome, sunlight readable

**Language support:** multi language of English, French, Spanish, Italian, Czech, German, Portuguese, Slovak, Finnish, and Hungarian

**Information displays:** Loss of signal (LOS), min, max, large reading while displaying min at the same time, velocity, zero, calibration, units, freeze, unfreeze, % battery life remaining, gain - low, std, high, echo to echo symbol

**Resolution:** .001" (.01 mm), .01" (.1mm) user selectable

**Probe recognition:** Via a pick list from a menu

**Delay line auto zero measurement:** Auto at power up with listed numeric value. Ideal for correcting delay line wear/curvature and for transducer acoustic drift at elevated temperatures

**Package:** IP54 rated Custom, splash-proof, high impact plastic with illuminating rubber keypad for go/no-go testing

**Bandwidth:** 0.5-20 MHz (-3dB)

**Units:** English/Metric/Microseconds

**Gain:** Low, Standard and High for varying test conditions (for gages without a waveform) or 1 dB steps from 20-90 dB or Automatic Gain Control (AGC) for gages with a waveform

**Fast Min/Max Mode:** Simultaneously displays minimum or maximum and actual thickness value at 20 measurements per second

**Differential Mode:** Displays the difference from the actual thickness measurement in absolute or percentage of a user entered reference value

**Alarms:** Minimum/Maximum depth, vibrates, beeps and display flashes as well as keypad illumination

**Illuminating keypad:** F1 = Red, F2 = Yellow and F3 = Green for easy go/no-go testing

**Ergonomics:** User selectable lefty or righty display changes via keypad

**Backlight:** Light Emitting Diode, On/Off or Auto On based on valid readings or last key press

**Shut off:** Auto, user programmable time out (1-31 minutes), after no reading/key press or never shut off

**Protective pouch:** Custom molded pouch with wrist strap and belt clip (Optional, standard on DLW and DL gages)

**Transport case:** Hard Plastic with high density molded foam cut out for gage and most accessories

**Freeze mode:** Freezes display (ideal for high temperature readings)

**Hold mode:** Holds display to retain last thickness reading

**Standard EHC-09 Wave Series includes:** Ultrasonic thickness gage, DKS-537, 5 MHz 0.375 inch diameter potted cable, operational manual, Data XL interface program, couplant, and transport case. See chart below for standard inclusions for each gage

**Warranty:** Limited 2 year warranty on parts and labor for gage only under normal use

**Transducers:** A wide variety of dual transducers from 1-10 mhz, high temperature duals, delay lines and pencil probes. Note the EHC-09A only works with the DK-718, DK(S)-537 and the DC-250.

Item	Specification	EHC-09DLW	EHC-09DL	EHC-09	EHC-09B	EHC-09 A
Language:	English, French, Spanish, Italian, Czech, German, Portuguese, Slovak, Finnish, and Hungarian	✓	✓	✓	✓	✓
Thickness range:	0.020 - 20 inches (.50 mm - 508 mm)	✓	✓	✓	✓	✓
Hold mode:	Holds display to retain last thickness reading with reverse video display	✓	✓	✓	✓	✓
Freeze mode:	Freezes display	✓	✓	✓	✓	✓
Fast Min/Max Mode:	Simultaneously displays minimum or maximum and actual thickness value at 20 measurements per second	✓	✓	✓	✓	○
Units:	Inches/Millimeters/Microseconds	✓	✓	✓	✓	✓
Alarms:	Minimum/Maximum depth, vibrates, beeps and display flashes as well as keypad illumination and vibration	✓	✓	✓	✓*	○
Illuminating keypad:	F1 = Red, F2 = Yellow and F3 = Green for easy, go/no-go testing	✓	✓	✓	✓	○
Gain:	Variable adjustment of gain	✓	✓	✓	○	○
Differential Mode:	Displays the difference from the actual thickness measurement and a user entered reference value	✓	✓	✓	○	○
Velocity Mode:	Displays acoustic sound speed	✓	✓	✓	○	○
Non-Encoded B-Scan:	Displays a cross section of the test piece	✓	✓	○	○	○
Echo to Echo:	Measures the metal thickness only (ignore paint and coatings)	✓	✓	✓	○	○
Datalogger:	Upgrade to Data Logger Version, 100,000 readings in linear, 2D, 3D grid or boiler alphanumeric files, 20 character file name, export to excel via Data XL interface program, also compatible with Ultrapipe	✓	✓	○	○	○
Carrying Pouch:	Custom molded with belt clip and elastic strap	✓	✓	○	○	○
Live Waveform (A-scan)	Full adjustments, for gain in 1db step or AGC, main bang blank, blank after first received echo, range including zoom auto tracking to center echoes independent of material and rectification	✓	○	○	○	○

\* EHC-09B does not include vibrate feature  
○ = Software options that are field upgradeable, no need to return the unit to the factory



# AFFORDABLE EHC-03 ULTRASONIC THICKNESS GAGE



With more than 75 years of world-wide experience in ultrasonic design, Danatronics is pleased to welcome our EHC-03 to our corrosion thickness gage family. The EHC-03 is designed to accurately and non-destructively measure metal structures subject to corrosion.

The EHC-03 is packaged in our field proven IP54 case used in our popular EHC-09 series.

The EHC-03 represents a quality, ultrasonic thickness gage designed to provide years of

unprecedented measurements all at an entry level price. With the new Q-bar, even the most inexperienced operators can quickly determine if a thickness reading is stable. The EHC-03 offers a wide measurement range, two point calibration and even multiple on-screen languages. The EHC-03 is proudly made in the U.S.A. and has a 2 year warranty. Contact Danatronics for more details.

## Specifications for EHC-03:

**Size:** 5" (127 mm) (L) x 3" (76.2 mm) (W) x 1.25" (31.75 mm) (H)

**Weight:** 8 OZ (.23 kg)

**Thickness range:** .040"-20" (1mm-508mm) in steel

**Material Velocity Calibration Range:**  
0.0200 - 0.7362 in/ $\mu$ S  
(0.508 - 18.699 mm/ $\mu$ S).

**Temperature:** Gage Operating: -4° F to 122° F  
(-20° C to 50° C)

**Battery life:** Up to 50 hours (20 hours with backlight on)

**Battery type:** 2 "AA" Alkaline

**Display:** 128 X 64 Graphics LCD monochrome, sunlight readable

**Language support:** multi language of English, French, Spanish, Italian, Czech, German, Chinese Portuguese, Slovak, Finnish, and Hungarian

**Q-Bar:** graphic display that confirms measurement stability

**Package:** IP54 rated custom, splash-proof, high impact plastic with rubber keypad

**Bandwidth:** 0.5-20 MHz (-3dB)

**Units:** English/Metric/Microseconds

**Backlight:** Auto on with valid reading or keypress for 10 seconds

**Optional Protective pouch:** Custom molded pouch with wrist strap and belt clip

**Transport case:** Hard plastic with high density molded foam cut out for gage and most accessories

**Freeze mode:** Freezes display

**Hold mode:** Holds display to retain last thickness reading

**Standard EHC-03 includes:** Ultrasonic thickness gage, DKS-537 5MHz 0.375 inch diameter potted cable, operational manual, NIST traceable calibration certificate

Note: The EHC-03 is only available with the DKS-537 and is not field upgradeable

**Warranty:** Limited 2 year warranty on parts and labor for gage only under normal use

## Typical Applications:

- Boiler Tubes
- Pressure Vessels
- Storage Tanks
- Ship Hulls
- Containers Home
- Oil Tanks
- Pipes
- Steam Lines
- Compressor Shafts

## EHC-03 Additional Features:

- Affordable hand held ultrasonic thickness gage
- Measures .040"-20" of steel
- Simple to operate
- 2 point calibration
- Q-bar to confirm measurement stability
- On screen display of multiple languages
- IP54 rated case
- Made in USA



For more information, call us at  
**978-777-0081** or email  
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or visit [www.danatronics.com](http://www.danatronics.com)  
to arrange a demonstration.

# DANATRONICS ULTRASONIC THICKNESS GAGES... WE MEASURE UP!



Danatronics introduces the first ever hand held ultrasonic precision thickness gages with **COLOR** A-Scan. The UPG-07DLCW is a hand held ultrasonic precision thickness gage designed to non-destructively measure most engineering materials with the greatest thickness range. So if you are measuring coil steel, fiberglass thickness on boats, titanium golf club heads, plastic bottles or even rubber tires . . . *put us to test, we measure up.*

For more information, call us at **978-777-0081** or email **sales@danatronics.com** or visit **www.danatronics.com** to arrange a demonstration.

The UPG-07 series is also available in multiple models with either monochrome or color from basic to fully loaded. All gages within a family are field upgradeable so if you need to turn on the B-Scan or datalogger in the future – *it is all right there even without the use of a computer.*

## UNPRECEDENTED FEATURES INCLUDING:

- .0001 Resolution
- Live color A-Scan
- Vibration and color change on alarm
- Stored and recall of setups
- 30 Mhz. bandwidth
- Squarewave pulser
- Zoom auto tracking
- 100 K reading datalogger
- Multiple modes for challenging applications
- Gain, range and blanking adjustments
- Available in multiple models



**Size:** 5" (127 mm) (L) x 3" (76.2 mm) (W) x 1.25" (31.75 mm) (H)  
**Weight:** 8 OZ (.23 kg)  
**Thickness range:** 0.004 - 20 inches (0.10 mm - 508 mm), depending on material, temperature and transducer selection  
**Material velocity calibration range:** 0.200-0.7362 in/μsec. (0.508-18.699 mm/μsec.)  
**Temperature:** Gage Operating: -4° F to 122° F (-20° C to 50° C)  
**Surface temperature of material:** Depending on probe used, from -5° F to 1000° F (-20° C to 537° C)  
**Battery life:** Color display up to 40 hours (15 hours with backlight on)  
 Monochrome up to 200 hours (40 hours with backlight on)  
**Battery type:** 2 "AA" Alkaline  
**Display:** Color 220 X 170 Graphics Color TFT with Live Color Waveform  
 Monochrome 64 X 128 Graphic Display  
**Information displays:** LOS, min, max, large reading while displaying min at the same time, velocity, zero, calibration, units, freeze, unfreeze, % battery life remaining, gain - low, std, high, echo-to-echo symbol  
**Resolution:** 0.0001" (0.001 mm), 0.001" (0.01mm)  
**Probe recognition:** Via pick list from a menu  
**Delay line zero measurement:** Auto at power up with listed numeric value  
 Ideal for correcting delay line wear/curvature and for transducer acoustic drift at elevated temperatures  
**Stored Setups:** Ability to store up to 30 custom set ups to retain valuable parameter settings such as sound velocity, gain, slope, range  
**Modes of Measurement:** *Class 1*, main bang to first back wall echo  
*Class 2*, Delay line (interface echo) to first back echo  
*Class 3*, Echo to Echo following an interface echo from a delay line or water column  
**Package:** Custom, splash-proof, high-impact plastic with rubber, illuminating keypad for go/no-go testing  
**Bandwidth:** 0.5-30 MHz (-3dB)  
**Pulsar:** Square Wave  
**Units:** English/Metric/Microseconds  
**Languages:** English, German, French, Spanish, Italian, Czech, Finnish, others  
**WaveForm:** Live Color Waveform with Dynamic color change on alarm, large thickness reading. Live Monochrome waveform. *See chart for included features by model.*

**Rectify:** RF, Full Wave, Half Wave+, Half Wave -  
**Blanking:** Main Bang Blank and Blank After First Received Echo  
**Gain:** Auto or Manual in 1 dB steps for varying test conditions  
**Time Dependent Gain:** adjust for slope and gain level as a function of time  
**B-Scan:** Cross sectional representation of test piece  
**Measurement rate:** 4/sec and 20/sec in fast mode  
**Differential Mode:** Displays the difference from the actual thickness measurement and a user entered reference value  
**Alarms:** Minimum/Maximum depth, vibralarm (vibration on alarm-patent pending), beeps and display flashes as well as keypad illumination and dynamic waveform color change  
**Illuminating keypad:** F1 = Red, F2 = Yellow and F3 = Green for easy, go/no-go testing  
**Ergonomics:** User selectable lefty or righty display changes via keypad (Patent Pending)  
**Backlight:** Light Emitting Diode, On/Off or Auto On based on valid readings or last key press  
**Shut off:** Auto, time out (after 1-31 minutes user programmable after no reading, L.O.S. or no key press or "never")  
**Scan mode:** Simultaneously Displays minimum or maximum thickness value at 20 measurements per second (ideal for tracking the minimum depth)  
**Protective Pouch:** Custom molded pouch with wrist strap for either left-handed or right-handed operators.  
**Shipping case:** Hard plastic with high-density molded cut out for all accessories  
**Freeze mode:** Freezes display (ideal for high temp. measurements)  
**Hold mode:** Holds display to retain last thickness reading in reverse video display  
**Standard UPG-07 series includes:** Ultrasonic thickness gage, transducer (less than 10 Mhz with cable), operational manual, couplant, transport case, data XL interface program.  
**Warranty:** Limited 2 year warranty on parts and labor

MADE IN USA

Feature	UPG-07B	UPG-07	UPG-07DL	UPG-07DL W	UPG-07C	UPG-07 CW	UPG-07DL CW
Display type M=monochrom, C=Color	M	M	M	M	C	C	C
thickness range	.004-20"	.004-20"	.004-20"	.004-20"	.004-20"	.004-20"	.004-20"
Scan Mode	20 Hz.	20 Hz.	20 Hz.	20 Hz.	20 Hz.	20 Hz.	20 Hz.
Hold Mode	yes	yes	yes	yes	yes	yes	yes
Freeze	yes	yes	yes	yes	yes	yes	yes
Illuminating keypad	yes	yes	yes	yes	yes	yes	yes
Units	in/mm/μsec	in/mm/μsec	in/mm/μsec	in/mm/μsec	in/mm/μsec	in/mm/μsec	in/mm/μsec
Gain	no	yes	yes	yes	yes	yes	yes
Differential	no	yes	yes	yes	yes	yes	yes
Alarms (with vibrate)	yes less vibrate	yes	yes	yes	yes	yes	yes
B-Scan	no	option	yes	yes	no	option	yes
A-Scan	no	option	option	yes	no	option	yes
Datalogger	no	option	yes	yes	no	option	yes
Carrying pouch	option	option	yes	yes	option	yes	yes
Main bang blanking	no	option	option	yes	no	yes	yes
Interface blanking	no	option	option	yes	no	yes	yes
Stored setups	no	yes	yes	yes	yes	yes	yes