DANATRONICS NDT Made Easy

NEW

ECHO PRO ULTRASONIC FLAW DETECTOR

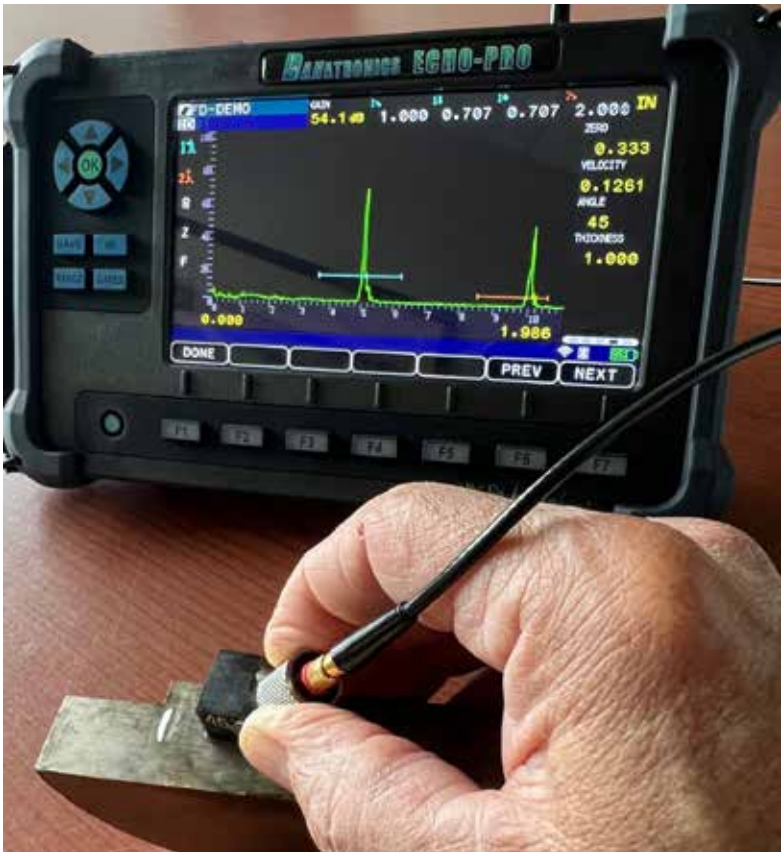
Introducing our newest Flaw Detector... ECHO PRO

Danatronics ECHO PRO is our latest portable ultrasonic flaw detector. Designed with more than 70 years of digital ultrasonic flaw detection experience and always with our users in mind; you will be amazed at the speed and ease of use of its operations.

The ECHO PRO comes standard with many common software features such as a powerful datalogger with export of thickness readings to Excel, 2 gates, AWS, API 5UE, DAC, single hand and touch screen operation along with a powerful 600 Volt pulser and continuous 8-10 hour battery operation. Advanced features include damping, digital filters, analog and alarm outputs, wifi and Bluetooth. Optional Features include interface gate, floating and tracking gates, extended range, and back echo attenuator.

ECHO PRO can handle your most challenging ultrasonic inspections while being very simple to operate.

Call, click or write to us for a demonstration or quotation.



ECHO PRO Features

- 7” sunlight readable Multi-Touch Display
- 2 independent gates
- Color change and vibrate on alarm
- Designed for IP67
- 8-10 hour battery life
- Made in the USA
- Standard features include datalogger, 2 gates, DAC, AWS, B-Scan, API-5UE, WiFi, Bluetooth
- Advanced Features include Extended Range, TVG, Back ECHO Attenuation, Interface Gate, Damping and energy

ECHO PRO is ideal for a wide variety of applications and industries:

- Weld inspection
- Delaminations
- Porosity
- Disbond
- Forgings
- Castings
- Refining
- Power generation
- Oil and gas
- Pipeline inspection
- Tank inspection
- Thickness surveys
- Inspection companies

Specifications ECHO PRO

General

Size: 9.9” x 6.16” x 2.50” (252 mm x 157 mm x 64 mm)

Weight: 3.6 lbs (1.63 kg) with internal rechargeable battery. 2.6 lbs (1.18 kg) without battery

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

Enclosure: Custom case with rubber over mold and padded hand strap, built in stand with variable angle, ¼-20 connector for magnetic pipe stand and 4 point chest harness optional

Battery Life: 8-10 hours

Battery Type: 7.2V, 13.6AHr rechargeable lithium-ion

Battery storage Temperature: 32 °F to 122 °F (0 °C to 50 °C)

Power Requirements: AC Mains: 100-240 VAC, 50-60 Hz 1.4A max Input

Units: inches, mm or µsec

Communication: USB, Wi-Fi, Bluetooth, RS-232 (Optional)

Languages: English, French, Spanish, Italian, Portuguese, German, Slovak, Swedish, Russian, Chinese, Japanese, Czech, Finnish, Hungarian

Standard Inclusions: Digital Ultrasonic flaw detector with 7” color sunlight readable touch screen display including: 2 independent gates, DAC, AWS software, datalogger with B-Scan, enclosure includes protective rubber corners with built in stand and padded hand strap, microSD card, rechargeable Li-ion battery, AC adapter with power cord, USB-C cable, plastic carrying case, couplant, Data XL interface program to export saved readings to p.c. (Microsoft Excel), ASTM E317-15 calibration certificate

Certifications: CE certified, RHOS compliant, designed for IP67, ASTM E317-15 calibration certificate included with gage

Warranty: Limited 2 year warranty under normal use on parts and labor for gage. Optional Dan-A-Care to add up to 3 more years

Display

Display: 7” sunlight readable Multi-Touch display with Wide VGA (800x480 pixels)

Backlight: Light Emitting Diode (LED) backlight. Includes variable light intensity

Interface: Operate with multi- touch screen and/or keyboard - complete one-hand operation

Inputs/Outputs

USB Port: USB-C (Supports USB 2.0 On-The-Go (OTG), Power in to charge the unit, Display output)

RS-232 Port: Optional

Video Output: Wide VGA output via USB-C (Requires USB-C to HDMI cable)

Analog Output: 1 analog output (optional), Selectable 1 V/10 V Full Scale, 4mA max

Alarm Output: 3 alarm outputs, 5 V TTL, 10 mA

Trigger I/O: Trigger input, 5V TTL; Trigger output, 5V TTL, 10 mA max

Encoder Inputs: 2-axis encoder line

Charger Input: 12V DC, 5A

Transducer Connectors: Dual LEMO 00

Measurement

Transducer and Measurement Types: Single, dual, thru transmission, angle beam, delay lines, contact, immersion, echo to echo, dry couple

Measurement Rate: 10 Hz -2k Hz adjustable

Range: 0.353” to 277” (8.96 mm to 7035.8 mm) @ 5,900 m/s (0.2320 in./µ) Optional extended range 554” (14071.6mm)

Zoom: Zooms gate 1 width to minimum range capability

Display Delay: -0.018” to 276.647” (8.96 to 7035.8mm) @ longitudinal velocity in steel

Zero Offset: 0-2387 µsec.

Velocity: 0.0250”/µs to 0.6000”/µs (635 m/s to 15240 m/s)

Alarm: Dynamic change of color and vibrate on alarm for echo in gate, echo above DAC positive, DAC negative, gate, minimum depth alarm and polarity change (phase reversal)

Peak Hold: Holds curve of ECHO envelope with live echo. Peak on, Peak hold, Peak off, peak pitch memory (audible chirp based on maximum echo amplitude)

Freeze: Freezes for data storage and waveform viewing analysis - ideal for high temperature measurements

Waveform: Filled or outlined

Angle Beam: Displays all three leg components, angular distance, surface distance and depth (automatically displayed once an angle is entered) accounting for leg correction to correct for beam index point of wedge, fourth measurement box is gate 1 amplitude

Refracted Angle: 0° to 85° in 1° increments including 0, 30, 45, 60 and 70 as pre-set choices

Gate (1, 2): Thickness, Soundpath, Projection, Depth, Amplitude, Time-Of-Flight, Min./Max. Depth, Min./Max. Amplitude

Echo-to-Echo: Standard Gate 2-Gate 1, Optional IF Gate Tracking

Other measurements: Overshoot (dB) value for DGS/AVG, ERS (equivalent reflector size) for DGS/AVG, AWS D1.1/D1.5 A, B, C and D values, Reject Value, Echo to Ref dB values

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Ensayos No Destructivos

endsa.com

Specifications ECHO PRO

Measurement (cont.)

DAC/TCG: Standard

DAC points: Up to 50 points, 110 dB dynamic range

Special DAC modes: Custom DAC (up to 6 curves), 20-80% View

Curved surface correction (Optional): Standard OD or Bar correction for Angle Beam measurements

Curves: AVG/DGS

Corrosion Module (Optional): Zero-cross measurement algorithm, V-Path correction, Single or Echo-to-Echo, Encoded B-scan

Pulser

Pulser: Tunable Square Wave (1-25 MHz) or spike

Pulse Repetition Frequency(PRF): 10- 2000 Hz in 10 Hz increments

Pulser Voltage: 50V-600V in 5V increments.

Pulse Width: Adjustable from 20 ns to 2,000 ns (30MHz-0.5 MHz)

Damping: 50, 63, 150, 400 Ω

Receiver

Gain: 0-110db in (.1db increments for 0-100db)

Max Input Signal: 20 V p-p

Receiver Input Impedance: 400 Ω ± 5%

Receiver Bandwidth: 0.5 MHz to 25 MHz (-3 dB)

Filters: TBD

Rectification: RF, Full Wave, Half +, Half –, RF

Linearity: Per ASTM E317-15 (1% on vertical axis, .5% on horizontal axis)

Resolution: 1% FSH, amplifier accuracy ± 1dB

Reject: 0-80% FSH, completely linear with vertical indication bar

Amplitude Measurement: 0 to 110% full screen height with 1% resolution

Measurement Rate: Equivalent to PRF in all modes

Calibration

Automated Calibration: Velocity, Zero Offset, Straight Beam (First Backwall or Echo-to-Echo), Angle Beam (Soundpath or Depth)

Test Modes: Pulse Echo, Dual, or Through Transmission

Gates

Measurement Gates: 2 fully independent gates for amplitude and TOF measurements,Optional Interface gate

Gate Start: Variable over entire displayed range

GateWidth: Variable from Gate Start to end of displayed range

Gate Height: Variable from 2 to 95% full screen height

Alarms: Positive and Negative Threshold, Minimum Depth (Gate 1 and Gate 2)

Gate Options: Floating, tracking and interface

Datalogger

Datalogger: file types linear, 2D, 2D with custom point, 3D, 3D with custom point, boiler with and without waveform storage options.32 character file name and 20 character longer I.D. strings

Data storage: 100,000 IDs onboard, removable MicroSD card standard, expandable to 32Gb file types linear, 2D, 2D with custom point, 3D, 3D with custom point, boiler with and without waveform storage options. 32 character file name and 20 character longer I.D. strings

Stored Setups: Storage and recall of 2700 calibration and setup files

Data XL: Interface program to send and receive files to and from PC. Displays thickness with ID in Microsoft Excel

Hardware/Software

Software Options: Corrosion module, precision module, floating gate, tracking gate, interface gate, pipe curvature correction, backwall echo attenuator (BEA), extended range up to 554”

Hardware Options: Magnetic wheel encoder, RS-232, heavy duty bail, spare battery, external charger, foot switch, test blocks, cables, probes, couplant, and magnetic pipe stand, heavy duty Pelican case, chest harness

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