



Echo Pro

Ultrasonic Flaw Detector

Introduction

See every detail with the large 7" Hi-Resolution Touch Screen

Work your way with the option of touchscreen gestures or conventional button control

Improve efficiency with easy-to-access menus and customisable hotkeys

Perform any task with the powerful feature-laden user interface (AWS, TVG, Interface Gate, 600V Pulser)

Experience peace of mind with rugged, US-made quality and IP67-certified durability

The ECHO PRO is the latest portable ultrasonic flaw detector from Danatronics.

Designed with more than 70 years of digital ultrasonic flaw detection experience and always with 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 data logger.

Export of thickness readings to Excel, two 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.

Connectivity

Ports: USB port, USB-C (Supports USB 2.0 On-The-Go (OTG), Power in to charge the unit, Display output), RS-232 Port

Video Output: Wide VGA output via USB-C to HDMI

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

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

Encoder Inputs: 2-axis encoder line

Transducer Connectors: Dual LEMO 00



General Specifications

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

Measurement Rate (PRF): 10- 2000 Hz in 10 Hz increments

Range: 8.96 mm to 7035.8 mm (0.353" to 277") @ 5,900 m/s (0.2320 in./µ)

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

Weight: 1.63 kg

Operating Temperature: -20°C to 50°C

Enclosure: Custom case with rubber over mould and padded hand strap, built in stand with variable angle, ¼-20 threaded connector for pipe stand or chest harness

Battery Life: 8-10 hours

Charger Input: 12V DC, 5A

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

Units: mm or µsec

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

Languages: English, French, Spanish, Italian, Portuguese

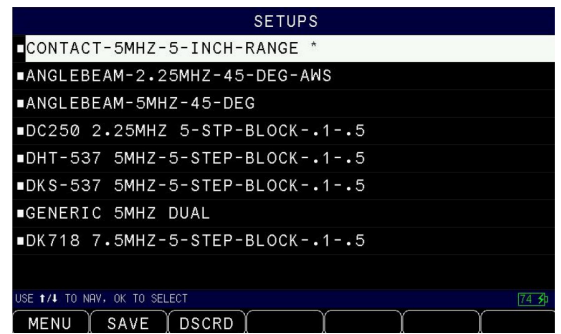
Warranty: Limited 2 year warranty.

Features

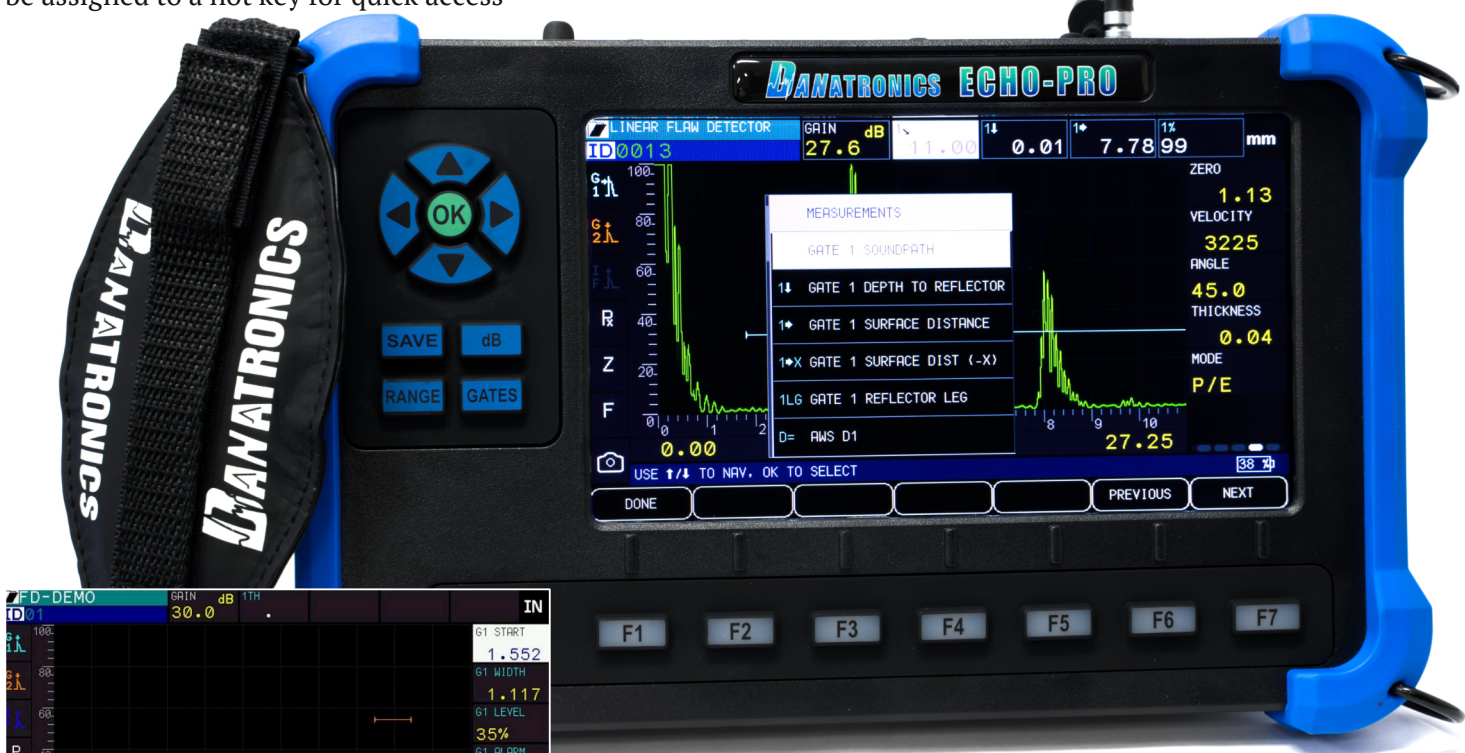


Print Screen (Camera Icon) - One touch button that saves current A-Scan to SD memory

Customisable Range - Preset Ranges can be assigned to a hot key for quick access



Probe Angle - Programmable preset probe angles and frequencies can be saved as presets to suit your preference



Selectable Auto 80% Full Screen Height - For use with both Gates

Trigonometry drop down menu- Options such as Soundpath, depth and distance are easy to select via drop down boxes

Data Logging Configurations

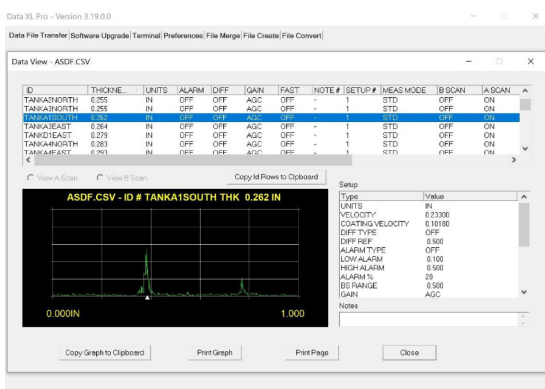
File types: linear, 2D, 2D with custom point, 3D, 3D with custom point, boiler with and without waveform storage options, 32 character file name and 20 character longer I.D. strings

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 FREE

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



Receiver

Gain: 0-110db (0.1db increments for 0-100db)
Max Input Signal: 20 V p-p
Receiver Input Impedance: 400 $\Omega \pm 5\%$
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 ± 1 dB
Reject: 0-80% FSH, completely linear with vertical indication bar
Amplitude Measurement: 0 to 110% FSH with 1% resolution

Measurement

Transducer and Measurement Types: Single, dual, thru transmission, angle beam, delay lines, contact, immersion, echo to echo, dry couple
Measurement Rate (PRF): 10- 2000 Hz in 10 Hz increments
Range: 8.96 mm to 7035.8 mm (0.353" to 277") @ 5,900 m/s (0.2320 in./ μ)
Display Delay: 8.96 to 7035.8mm (-0.018" to 276.647") @ longitudinal velocity in steel
Zero Offset: 0-2387 μ sec
Velocity: 635 m/s to 15240 m/s (0.0250"/ μ s to 0.6000"/ μ s)
Alarm: Dynamic change of colour and vibrate on alarm for echo n 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
Angle Beam: Angular distance, surface distance & depth
Refracted Angle: 0° to 85° in 1° increments including 0, 30, 45, 60 and 70 as pre-set choices
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
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)
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
Measurement Gates: 2 gates for amplitude and TOF measurements
Gate Width: Variable from Gate Start to end of displayed range
Gate Height: Variable from 2 to 95% FSH
Alarms: Positive and Negative Threshold, Minimum Depth (Gate 1 and Gate 2)

Accessories



EZ Scan 6
Magnetic Wheel Encoder



Spring Loaded Holder



Chest Harness



Couplant



Step Wedge Block

PCTE Contact Information

New Zealand
+64 274 738 758

QLD
Michael Dubery
m.dubery@pcte.com.au
0419 477 715

VIC
Gary Day
g.day@pcte.com.au
0488 331 244

WA (Head Office)
(08) 9322 4020

Derek Burns
d.burns@pcte.com.au
0498 800 373

Reuben Barnes (MD)
r.barnes@pcte.com.au
0408 034 668

NSW (Warehouse)
(02) 9452 9941

William Ward
w.ward@pcte.com.au
0418 381 709

Joel Shenoy
j.shenoy@pcte.com.au
0487 043 466

LinkedIn
www.linkedin.com/company/pcte

Webpage
www.pcte.com.au