

NDT

NDT INTERNATIONAL, INC.

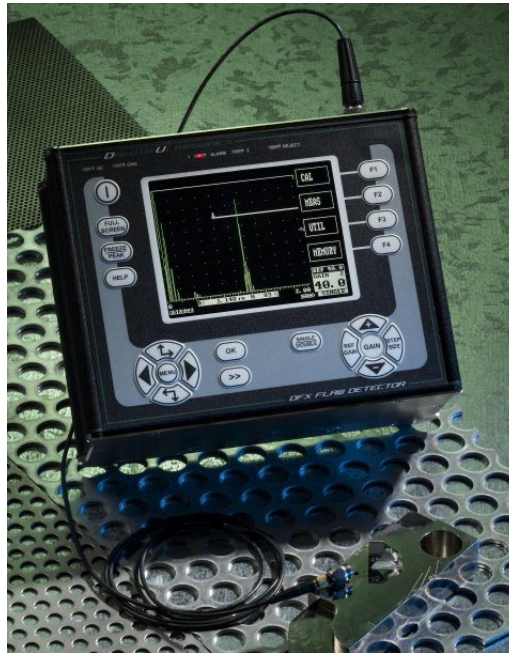
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NEW! "DFX" Series Digital Flaw Detectors

The DFX series ultrasonic flaw detectors are full featured digital instruments designed to handle the simplest to the most difficult applications.

Whether the application requires high penetration for materials that are difficult to measure, or high resolution for precision aerospace parts, the DFX series flaw detectors are equipped with the necessary features to do the job.



Models DFX-615, DFX-625, DFX-635 and DFX-638

Features

Transflective Color TFT Display
Broad & Narrow Band Amplifier
Square Wave Pulsar (Active Edge)
Extruded Aluminium Case (IP65)
Digital Thickness Display
DAC/TCG/AWS/DGS
Automatic Calibration

PC/Video/Analog Outputs
Long Battery Life (Li-ion pack)
Large Memory Capacity
Curved Surface Correction
Alphanumeric Notes
Trig function
Help feature

Specifications

Physical

Size: 9.25 x 7.13 x 4.0 inches
(235 x 181 x 102mm)
Weight: 7.5lbs. (3.4Kgs)
with Li-Ion cells.
Case: Extruded Aluminum.
Display: Transflective TFT Color.
Display area: 4.39" x 3.29" (111.4
x 83.5mm) 320 x 240 pixels.
A-Scan area: 255 x 200 pixels
(315 x 200 expanded), 8 color options
and variable brightness.
Temperature:
Operating +14 to 131°F
(-10 to +55°C)
-4 to 158°F (-20 to +70°C)
(survivable)
Storage -40 to 167°F
(-40 to +75°C)
Environmental:
Meets IP65 requirements.

Specifications

Units: English (inch),
Metric (mm), or Time (μs).
Probe Zero: 0-999,999 μs.
Velocity: 615 & 625 0.0393 to
0.3937 in/μs (1000-9999m/s). 635 &
638 0.0100 in/μs (256 to 16000 m/s).
Test Range:
615 & 625 0 - 0.2in (5mm) up to 0 -
400in (10,000mm) at steel velocity.
Variable in sequence, 0.4in or 0.04in
(10mm or 1mm).
635 & 638 0 - 0.05in (1mm) up to 0 -
800in (20,000mm) at steel velocity.
Variable in 1, 2, 5 sequence or
continuously in 0.05in (1mm)
increments. Also from 1 to 5000(μs).
Test Modes: Pulse-echo and
transmit/receive.
Gates: 615 & 625 Start & Width
adjustable over full range. Amplitude
0 -100%, 0.5% steps. Visual &
audible alarms. Single gate positive
trigger, and two gates positive and
negative triggering. Gate 2 has
selectable 0.6 second delay on alarm.
635 & 638 Two fully independent
gates with positive and negative
triggering for each gate.
Gate Expansion:
635 & 638 Expands range to width
of Gate 1.
Gate Monitor Delay:
635 & 638 Selectable 0.6 sec delay
on gate 2 negative monitor.
Measurement Modes:
Signal Monitor - 635 & 638.
Depth - Depth and amplitude of
signal in gate.
Echo to Echo - Echo-Echo distance,
automatic gate 2 position.
Gate to Gate - 625 Echo-Echo,
manual gate 2 position.
635 & 638 independent gates.

Trig - Trigonometric display of beam
path, depth and surface distance.
Calculation of skip depth and curve
surface compensation, X-offset for
transducer.
T-Min - Holds minimum thickness in
depth mode.
System Linearity: Vertical = 1% Full
Screen Height (FSH) Amplifier Accuracy
±0.1%dB. Horizontal ±0.4% Full Screen
Width (FSW).
Pulsar Voltage: 615 & 625 200 volt
peak amplitude, rise/fall time < 10ns
into 50ohm.
635 & 638 100V - 350V (450V 638)
square wave pulser. Pulse width from
spike to 2000ns duration - rise/fall times
< 5ns into 50 ohms.
Pulsar Width: 615 fixed at 100ns.
625 30-250ns linked to filter band.
635 & 638 Adjustable in 2% of nominal
width, minimum 1ns maximum 40ns.
Active Edge: Unique active pulse
control for enhanced near surface
resolution and signal response. Replaces
traditional damping control.
P.R.F.: 615 & 625 Selectable 35 to
1000Hz (635 & 638 5000Hz), 5Hz steps.
Screen Update Rate:
50 or 60Hz.
Rectification: Full wave, positive or
negative half wave and un-rectified RF.
Delay:
615 & 625 0 - 400 in (10,000mm)
635 & 638 0 - 800in (20,000mm) at
steel velocity in 0.02 steps (0.05mm).
Gain: 0 to 110dB. Adjustable in 0.5, 2,
6, 14 and 20dB steps.
Frequency Bands:
615 4 Broadband 1 - 10 MHz (-6dB).
625 4 Narrow Bands centered at 1MHz,
2MHz, 5MHz, & broadband 1.5-15MHz.
635 & 638 6 narrow bands centered at
0.5, 1, 2.25, 5, 10 & 15 MHz. Broad
band at 2 to 22 MHz (-6dB) and 1 to 35
MHz (-20dB).
Vertical Linearity:
1% full screen height.
Amplifier Linearity: +/- 0.1 dB.
Horizontal Linearity:
+/- 0.4% full screen width (FSW).
Reject: 615 & 625 50% suppressive
reject. LED warning when selected.
635 & 638 80% linear reject.

Memory

Thickness Logging: Storage for 8000
readings stored in
Block/Location/Number coding or alpha-
numeric pre-programmed work sheets.
Transferable to Excel using optional PC
software.
Panel Memory:
100 storage locations for calibration
settings.
A-Scan Memory:
800 waveforms.

Features

Wave Smoothing: Produces a smooth
signal envelope.
AGC: Automatic Gain Control
set selected echo to a user defined level
(10 - 90%).
DAC: Up to 10 points may be entered
and used to digitally draw a DAC curve.
Reference -2, -6, -10, -12, -14 dB
curves can be selected for JIS, ASME and
EN1714 codes.
AWS: Automatic defect sizing in
accordance with AWS D1.1 Structural
Welding Code.
API: Automatic defect sizing in
accordance with API 5UE.
AVG/DGS: Automatic defect sizing
using probe data. 10 probe data sets can
be stored.
TCG: 625, 635 & 638 Time corrected
gain. 40 dB dynamic range, 30 dB per
microsecond, up to 10 points for curve
definition.
Auto-Cal: Provides Automatic calibration
with two echoes.
Reference Waveform: Recalled
waveform can be shown in a different
color to live waveform for direct
comparison.
Display Freeze: Hold current waveform
on screen.
Peak Memory: For echo-dynamic
pattern determination.
Online Help: Instant operator guidance
on operation accessed from direct key.
Language Support: Six user selectable
languages from: English, German,
French, Spanish, Dutch, Italian, Russian,
Polish, Czech, Finnish & Hungarian.
Others available on request.

Power Source

Battery: Lithium Ion battery pack
14.4V, 5.0 Amp hrs. Minimum 11 hours
use, typical 15 hours, indication of
battery charge. Recharge time 4 hours.
Charger: 100 - 240 VAC, 50 - 60Hz.

Connections

USB: For connection to PC, keyboard
and printer.
Outputs: Serial Interface, composite
video (NTSC & PAL), analog output for
amplitude and distance updated at PRF
rate. Transmitter sync output.
Transducer Connectors: available with
BNC or LEMO 1 connectors (factory
option).
Additional 638 Features
Interface trigger: Interface gate locks
to surface echo and eliminates water
path variation.
High Power Pulsar:
450 volt boost.

Warranty

2 year limited