EVIDENT

Simplicity Built Around You

NORTEC™ 700 Eddy Current Array Flaw Detector

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In one seamless platform, the NORTEC 700 eddy current array flaw detector brings conventional eddy current (ECT) and advanced eddy current array (ECA) within easy reach of more users than ever before. This is a breakthrough that standardizes premium inspection technology.

Based on the proven NORTEC 600 series, all three NORTEC 700 models share the same ergonomic design, simplified workflows, and digital ecosystem compatibility, ensuring seamless training and easy fleet standardization.

The NORTEC 700 eddy current array flaw detector is an innovative, accessible, unified solution that works the way you work—quickly, clearly, and reliably, wherever your inspection takes you.

Advanced Inspection Made Accessible

- Powerful, intuitive, cost-effective eddy current solution

Easy from the Start

- Simplified navigation cuts down on steps
- Intelligent, application-based presets

Precision and Endurance You Can Trust

- New generation of probe technology
- High-fidelity imaging for real-time precision

Designed for Real-World Needs

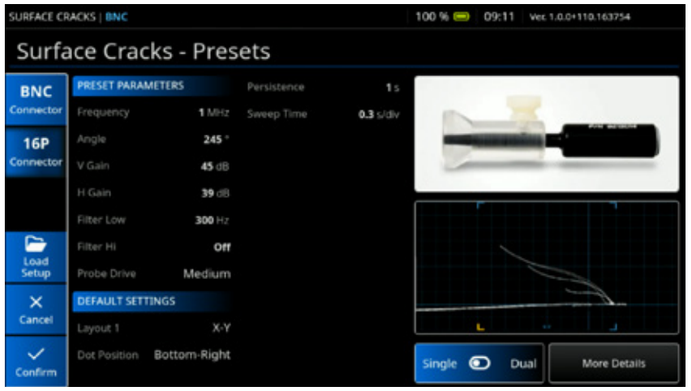
- Engineered from direct customer input
- Simplified day-to-day usability and streamlined data analysis

Intuitive and Easy to Use

Streamlined controls, an intuitive interface, and a comfortable, lightweight design help you work faster, stay focused, and trust every result.

Simplified Navigation

An evolution of the proven NORTEC 600 interface, the NORTEC 700 eddy current array flaw detector's refined, technician-centered navigation system minimizes the steps needed for successful inspection.



All-in-One Capabilities

Multiple test capabilities are integrated into one compact unit, enabling consistent, high-quality inspections wherever the job demands.

Application-Based Intelligent Presets

The NORTEC 700 eddy current array flaw detector turns complex inspection setup into a guided, intuitive process. Each preset automatically configures key parameters for selected probes and inspection types, eliminating guesswork and reducing setup time to seconds.

Lightweight Portability

At 1.79 kg (3.95 lb.) in a compact, user-friendly design, the NORTEC 700 eddy current array flaw detector delivers a new standard in portability and comfort while reducing operator strain and ergonomic constraints.

Hybrid Hard Key/ Touchscreen Controls

A hybrid interface combines the precision of hard keys with the speed of an intuitive touchscreen and a knob that delivers complete control.

Enhanced Ergonomics

The NORTEC 700 eddy current array flaw detector's ergonomic form is purpose-built for real inspection environments—comfortable to hold, balanced in hand, and easy to operate with or without gloves.

ECT and ECA in One Seamless Platform

Engineered for aerospace, defense, industrial, and manufacturing applications, the N700i combines conventional ECT and advanced ECA in one platform. Users can transition effortlessly between ECT and ECA using the same intuitive interface, preserving setup continuity and eliminating the need for separate instruments. This gives technicians and supervisors a unified, high-performance tool for all eddy current inspections.

A New Generation of Probe Technology

The NORTEC 700 platform introduces not only a new flaw detector, but an entirely new generation of affordable PCB technology (up to 256 channels) delivering superior repeatability, uniform signal quality from probe to probe, and simple calibration.

True-to-Scale Defect Visualization

The Defect Viewer feature displays defects at a true 1:1 scale, enabling operators to compare the on-screen indication directly with the actual defect size.

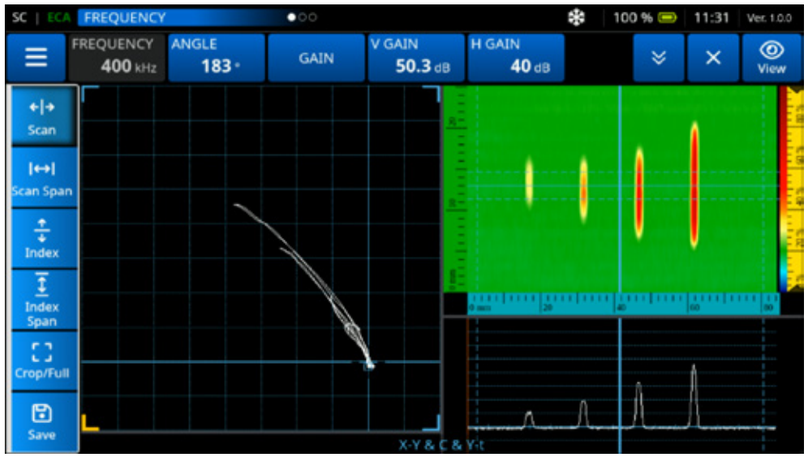
Four Connectors

All NORTEC 700 models come with a standard LEMO® 16-pin universal connector, a BNC ECT connector (automatic internal balancing), an ECA connector, and an I/O connector (for small system integration)—simply select the connector in the easy-use interface.

The NORTEC 700's LEMO connector also supports POWERLINK™ NORTEC probe technology (for bolt-hole and conductivity inspections only), which features automatic probe recognition and instrument presets for quicker setups.

Set ECA as Easily as ECT (N700i)

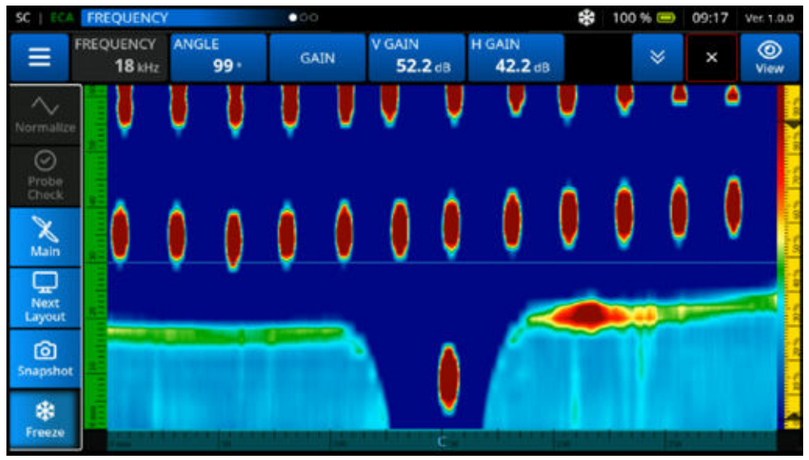
Using a live-mode impedance plane, the N700i brings imaging-grade ECA into an intuitive, portable form, making setting an ECA probe as straightforward as running conventional ECT.



Exceptional Visual Clarity Keeps Inspections Moving

The NORTEC 700 eddy current array flaw detector delivers exceptional visual clarity that helps you interpret results faster and with more confidence. Its high-brightness, high-resolution 7-inch display remains sharp and readable even in direct sunlight, ensuring consistent visibility whether indoors or on the tarmac. Enhanced color mapping and real-time imaging bring subsurface defects and surface cracks into sharp focus, delivering instantly recognizable patterns.

Every viewing element—from a responsive interface to refined contrast and brightness—was engineered to improve interpretation accuracy, reduce eye strain, and keep inspections simple and efficient.

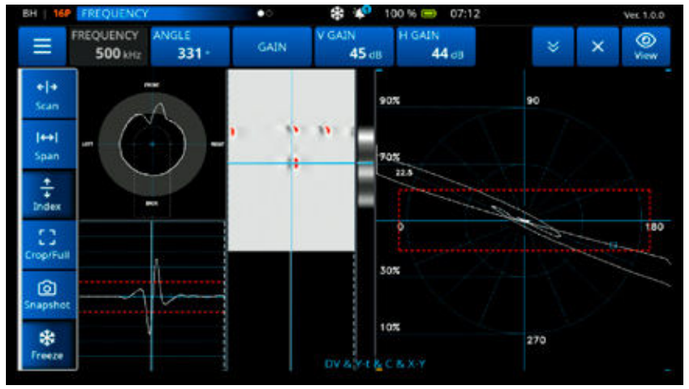


Layer Detection and Freeze Mode

Available on the N700i, advanced automatic layer detection and Freeze Mode bring new precision to bolt-hole and multi-layer inspections. Using intelligent signal interpretation, the N700i can accurately distinguish between fastener and backing material layers and genuine defect responses—reducing false calls and minimizing rework.

Defect Viewer

The Defect Viewer feature simplifies defect localization using the direct hole view and the Minimite scanner overlay image.

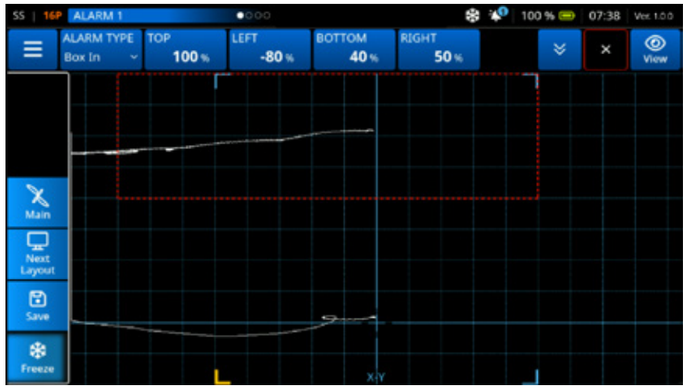


Bolt-Hole Inspection

Simplified configuration and an improved filter system make the NORTEC 700 eddy current array flaw detector ideal for bolt-hole (rotary scanner) inspection. Filters are set by default to a “figure 6” response, the typical shape for a rotary bolt-hole application. The filters can also be set to the “figure 8” response as needed. For an even easier configuration, operators can activate the Link option, which automatically adjusts the filter settings according to the scanner’s speed settings.

Fast Layout Selection

With the NORTEC 700 eddy current array flaw detector, it is easy to change the layout view using the Next Layout direct-access key. Layouts are user-selectable, enabling you to configure the display to best suit your inspection needs.



Choose from a variety of displays:

- Single impedance plane
- Dual impedance plane
- Sweep (strip chart)
- One-to-one view
- C-scan
- C-scan waterfall
- Split screen (sweep + impedance)
- All-in-one display featuring up to three configurable traces

A New Standard in NDT Inspection

Equal parts simplicity and performance, the NORTEC 700 is available in three versatile models to meet inspection demands across an array of aerospace, defense, industrial, and manufacturing applications. Additional features can also be unlocked remotely.

Features and Models

	N700	N700D	N700i
Surface and subsurface crack detection	√	√	√
Conductivity measurement	√	√	√
Bolt-hole (rotary scanner) inspection		√	√
Dual frequency capability		√	√
Eddy currant array (ECA) applications			√
Defect viewer (bolt-hole inspection)			√
Automatic layer detection (bolt-hole inspection)			√

Simplified Reporting that Ensures Accuracy

The NORTEC 700 simplifies the entire reporting process with fast, reliable tools that document inspection results directly from the detector—no extra hardware, software, or complex data handling required.

You can capture and save inspection snapshots, setup parameters, and signal data in real time, ensuring that every result is recorded accurately and ready for review.

Intuitive File Management

Easily preview, edit, overwrite, and delete files using the NORTEC 700's File Manager menu. A file preview function makes it simple to browse through different files. Once a file is found, it can be recalled at your convenience. The onboard Text Editor makes it simple to edit file names, revise user and instrument information, and add notes while onsite.

Easy Archiving with NORTEC PC Software

Anytime during inspection, recorded indications can be viewed with NORTEC PC software, which makes it easy to exchange files between the NORTEC 700 eddy current array flaw detector and your computer. With a USB cable, all files can be quickly downloaded or uploaded. Once the files are on your computer, you can view, copy, or export them as PDF reports. NORTEC PC software also features a PDF ALL function that generates an entire inspection report with a single click, making archiving incredibly easy.

Superior Signal Performance Across Every Inspection Application

Surface/Subsurface Inspection

High-performance electronics and a vibrant display deliver outstanding signal quality for surface and subsurface inspection. All standard features for medium- to high-frequency inspection are included: C-scan and impedance plane views, 10 × 10 grid, sweep (strip chart), multiple alarm configurations, and automatic lift-off. Added features include null point crosshairs, fine (expanded) and web grids, and automatic internal balance circuit (for BNC connector).

Conductivity and Coating Thickness Measurement

The NORTEC 700's conductivity mode features a straightforward calibration wizard including user-defined conductivity and coating thickness references.

Weld Inspection

Thanks to its portable, rugged design, the NORTEC 700 eddy current array flaw detector is ideally suited for weld inspection in extreme environments.

Critical Hole Inspection

With the NORTEC 700 eddy current array flaw detector, inspecting critical holes is simple and reliable.

Dual-Frequency Inspection

An all-in-one display features up to three configurable traces for frequency 1, frequency 2, and mixed channels.

NORTEC 700 Basic Specifications

For complete specifications, please download the full NORTEC 700 user manual at ims.evidentscientific.com.

Housing Dimensions	230.7 mm × 166.9 mm × 71.9 mm (9.1 in. × 6.6 in. × 2.8 in.)
Weight	1.79 kg (3.95 lb.), including lithium-ion battery
IP Rating	Rated IP65
Battery Model and Type	600-BAT-L-2 (Li-ion) [U8760058]
Battery Life	Minimum 8 hours for standard ECT inspections
Operating Temperature	-10 °C to 50 °C (14 °F to 122 °F) operating temperature range at 80% relative humidity
Storage Temperature	-20 °C to 50 °C (-4 °F to 122 °F) [with batteries]
Display Type	7-inch TFT LCD (thin-film-transistor liquid crystal display)
Display Dimensions (WxH, Diagonal)	154.2 mm × 85.9 mm, 177.8 mm (6.1 in. × 3.4 in., 7.0 in.)
Power (DC-IN Voltage)	24 VDC (60 W)
DC Connector	Circular, 2.5mm pin adapter, center-positive
Data Storage	64 GB internal storage
Wi-Fi	Optional
Bluetooth	Optional
Frequency Range	5 Hz to 12.5 MHz
Gain	0-100 dB; 1-dB increments; linked and independent, vertical and horizontal
Alarm Quantity	3 (independent)
Available Alarm Types	Choices of BOX (rectangle), POLAR (circle), SECTOR (pie), SWEEP (time-based), CONDUCTIVITY, and COATING THICKNESS

Angle	0–359.9°
Array Capacity	Up to 128 time slots
Number of Inputs	2
Drop-Tested	Method 516.6 Procedure IV, 26 drops, package for shipment
Shock-Tested	MIL-STD-810F, Method 516.5 Procedure I, 6 cycles each axis, 15G, 11 ms half sine shock testing
Vibration-Tested	MIL-STD-810F, Method 514.5 Procedure I, Annex C, Figure 6, general exposure; 1 hour each axis vibration test
Filters	Low-pass: 10 Hz to 2000 Hz and wide band. High-pass: off or 5 Hz to 1000 Hz, user-selectable in constant “figure 6” or “figure 8” filter type.
Drive Voltage	2 V p-p, 4 V p-p, 8 V p-p (low, medium, high)
Data Resolution	32 bits
Sample Rate	Up to 30 kHz
Connectivity	• USB C peripheral port (supports USB 2.0, USB 3.0, display port over USB alternate mode, Ethernet over USB 2.0 with optional external adapter) • Wi-Fi/Bluetooth • 19-pin LEMO I/O connector
Probe Types	Absolute and differential, in either bridge or reflection configuration. The instrument is fully compatible with NORTEC PowerLink probes, as well as other main probe and accessory suppliers.

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