



### FEATURES

- 50 Hz to 12 MHz frequency range
- Dual Frequency
- Single Li-Ion battery
- Lightweight, less than 1.8 Kg (4 lbs)
- Digital conductivity in International Annealed Copper Standard (%IACS) or Mega Siemens per meter (MS/m)
- Non-conductive coating readings in inches or millimeters
- Multiple scanner support
- Internal balance loads for single coil probe support
- Customer interchangeable displays:
  - Hi-Brite Electroluminescent
  - Monochrome Liquid Crystal
  - Color Liquid Crystal
- Waterfall display
- VGA Output
- Display Freeze to hold flaw signals
- Split screen presentation with color coded soft keys
- On screen reference memory for go-no-go applications
- On board storage of 120 programs
- PowerLink™ Technology - automatic probe recognition and instrument set-up
- Windows-based EddyMaster™ Software

## Dual Frequency Eddy Current Flaw Detector

The Nortec 2000D+ offers a frequency range of 50 Hz to 12 MHz for applications ranging from detection of cracks in tubes or structures to the discovery of minute flaws in aircraft materials. Single or dual frequency operation, easy to use digital conductivity, and rotating scanner support make the flaw detector ideal for numerous aerospace NDT applications.

Customer-interchangeable displays offer excellent visibility in any lighting condition. A VGA output drives a heads up display for inspection where conditions may be cramped or a large desktop monitor or projector for classroom training.

At less than 1.8 Kg (4 lbs), the rugged Foreign Object Debris (FOD) free case

will survive harsh field and production environments. An adjustable tilt bail and anti-slip bumper allow the unit to be placed on just about any surface.

The Nortec 2000D+ incorporates our unique PowerLink™ software, which provides automatic probe recognition and documentation. The instrument can be set-up by recalling the program stored in the PowerLink™ chip, providing integrity and repeatability of inspection results.

As many as 120 programs can be stored and recalled later. Date and time are recorded with each set-up and are easily identified with alphanumeric values up to 29 characters long. 20 memory locations are available to store eddy current displays.

# Nortec 2000D+ Specifications\*

## BASIC PERFORMANCE

**Frequency Range:** 50 Hz to 12 MHz

**Gain:** 0 dB to 90 dB in 0.1 dB steps. The horizontal and vertical gains may be adjusted separately or together.

**Rotation:** Variable 0° to 359°

**Sweep:** Variable from 0.005 s to 4 s per division

**Low Pass Filter:** 10 Hz to 500 Hz and wide band

**High Pass Filter:** Off, 2 Hz to 500 Hz. 2 pole response

**Probe Drive:** 2 V, 6 V, 12 V

**Variable Persistence:** Screen persistence can be varied from 0.1 s to 5 s

**Probe Types:** Absolute and differential in either bridge or reflection configuration. The instrument is fully compatible with Nortec PowerLink™ probes.

**Alarms:** Can be set to trigger on positive or negative

**Alarm Modes:** 1-3 box gates, polar, sweep, conductivity, and coating thickness

**Trace Storage:** 20 traces can be stored for recall. The traces can be static or frozen. They can contain up to 60 seconds of movement. The traces are stored with the date and time of capture.

**Program Storage:** 120 instrument set-ups may be stored and recalled. The date and time of storage is recorded with each set-up.

**Print Out:** Provides a custom configurable report header containing the display screen data and probe parameters including serial number (PowerLink™ probes only)

**Printers:** Any serial printer

## INPUTS / OUTPUTS

**Power:** 7-pin connector to charge the internal battery and operate the instrument on AC power

**RS-232:** DB-9P connector, bi-directional serial data via RS-232

**Probe Connector:** 16-pin LEMO

**Analog Outputs:** Horizontal and Vertical outputs of both F1 and F2. +/- 5 V, 1 V per division

**Alarm Outputs:** 9-pin analog and alarm output connector

**VGA Output**

## GENERAL

**Dimensions: (L x H x D)**

215 mm x 165 mm x 92 mm  
(9.5 in. x 5.5 in. x 3.6 in.)

**Weight:** 1.7 Kg (3.8 lbs) with battery

**Display:** Customer-interchangeable QVGA displays (320 x 240 pixels): color or monochrome LCD, Hi-Brite electroluminescent

**Operating Temperature:**

-10° C to 50° C (14° F to 122° F), depending on configuration

**Storage Temperature:**

-51° C to 71° C (-60° F to 160° F), depending on configuration

**Humidity:** 5% to 95%

**Classification:** Based on Class 2 specifications from the MIL-PRF-28800F handbook

**Altitude:** Maximum operating and non-operating altitude - 4600 m (15,000 ft)

**Hazardous Area Operation:** Safe operation as defined by Class I, Division 2, Group D, as found in the National Fire Association Code (NFPA 70), Section 500, and tested using MIL-STD-810F, Method 511.4, Procedure 1

## POWER

**Power Requirements:** 85 V to 240 V, 50 Hz to 60 Hz. External holder charges batteries outside the instrument. Charging time is typically 4 hours.

**Low Battery Protection:** Display bar graph "gas gauge" indicates approximate operating time.

**Battery Operating Time:** 8 hours (nominal depending on configuration)

## CONDUCTIVITY

**Frequency:** 60 kHz or 480 kHz

**Probe Type:** NORTEC Conductivity Probe

**Digital Conductivity Specification:** Digital conductivity display from 0.9% to 110% IACS or 0.5 to 64 MS/m. Accuracy within +/- 0.5% IACS from 0.9% to 65% IACS and within +/- 1.0% of values over 62%. Meets or exceeds BAC 5651 specifications.

**Non-Conductive Coating Thickness:** Can measure non-conductive coating thickness from 0 mm to 0.38 mm (0 in. to 0.015 in.). Accuracy of 0.025 mm (+/- 0.001 in.) over 0 mm to 0.38 mm (0.00 in. to 0.015 in.) range

## SCANNERS

**Scanner Compatibility:** Will operate all Olympus Nortec and other commercially available scanners

**Waterfall Display:** Stores up to 60 sweeps per hole and includes an on screen readout of the distance to the defect from the start of the scan (PS-5 only)

## DUAL FREQUENCY

**Frequency Extension:** 50 Hz to 12 MHz

**Second Frequency:** 50 Hz to 3 MHz, 2nd frequency is an exact division of the first frequency in ratios of: 1/2 (F1 < 6 MHz), 1/4, and even divisors to 1/32.

**Display:** Frequency 1 (F1) only, Frequency 2 (F2) only, sum of F1 and F2, difference between F1 and F2, split screen with selected combinations of F1 and F2 and mixed frequencies

**High Pass Filter:** Available in Frequency 1 (F1) only

## STANDARD INCLUSIONS

Operating manual  
Power cord  
Li-Ion battery  
Universal battery charger  
Carry case  
Protective Soft Cover  
VGA cable  
Calibration certificate

OLYMPUS NDT INC. is ISO 9001 certified.

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