



Nortec WorkStation Flaw Detector

FEATURES

- Digital conductivity with non-conductive coating measurements
- Multiple scanner and probe support
- Single or dual channel, 1 or 2 frequencies per channel
- Frequency: 100 Hz to 12 MHz
- Optional modules for RFT and high power
- Reference Memory
- 0 - 90 dB gain, user-defined steps
- Independent alarms
- PowerLink™ Technology - automatic transducer recognition and instrument set-up
- Screen and setup storage

EDDY CURRENT FLAW DETECTOR

The WorkStation, coupled with the Nortec module appropriate to your application is a semi-portable eddy current flaw detector that offers a wide variety of application solutions. The Nortec WorkStation can run in either single or dual frequency and with up to two channels of eddy current flaw detection. The open/close trunk design enables the customer to interchange a wide variety of drivers, amplifiers, gates and filters. It boasts a 8 inch (203 mm) diagonal full VGA 640 x 480 pixel count color liquid crystal display.

The Nortec WorkStation is battery or AC operated, with a full range of analog and digital outputs that can be customized through an expansion adapter providing for natural evolution in technology. It has the ability to change from one NDT discipline to the next, in less than ten seconds with its innovative general

purpose or customer / application specific modules and keypads.

The Nortec WorkStation was designed with Level III PowerLink™ capabilities, which provide customers with the ability to program their own transducers and probes for specific applications, thus providing for the automatic transfer of data for certification and documentation purposes.

WORKSTATION BACK PANEL



OUTPUTS

DC In / Out

Printer: Connection for parallel printers

RS-232C: DB-9 connector for bi-directional serial data

Lan/Twisted Pair Ethernet: 10 BaseT

VGA: VGA output to external monitor

ACC: Accessory output (12 - 15 volt output)

USB: Universal Serial Bus

Analog Output BNC Connectors: Module specific, see below.

NORTEC 200 MODULE



BASIC PERFORMANCE

Frequency Range: 50 Hz to 12 MHz

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

Sensitivity: Adjustable to 200 volts per ohm (high probe drive).

Flaw Response: 0 to 2000 Hz nominal

Digitizing Rate: Up to 6000 samples/sec

Rotation: Variable from 0 to 359.9° in 1.0°, 0.5°, and 0.1° steps

Sweep: Variable from 0.005 to 4 seconds/division

Low Pass Filter: 10 - 50 Hz and wide band

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

Probe Drive: 2, 6, or 12 volts peak-to-peak into 75 ohms

Null: Three (3) stage digital nulling

DISPLAY

Variable Persistence: Screen persistence can be varied from 0.1 to 5 seconds. Timed erase cycles can be selected up to 1 minute. Basic stored screen times are infinite with manual erase.

Screen Erase: Removes all signals from screen. Adjustable from 1 - 60 seconds

Continuous Null: Selectable among 0.1, 1.0, 5.0, and 10 Hz

Freeze: Freezes display on screen for storage or intervals

Reference Memory: Allows the user to recall a stored image to compare against a live signal

On Screen Control: Pertinent instrument settings are displayed on-screen next to impedance display window.

Update Rate: 60 Hz

ALARMS

Alarms: All alarms can be set to trigger on positive (signal enters alarm area) or negative (signal leaves alarm area)

Box Alarm: Three (3) separate box alarms work independently

Polar Alarm: Circular gate with positioning and radius adjustments

Sweep Alarm: High / Low threshold adjustment for use with external or auto sweep modes

Alarm Dwell: Selectable, 0 - 10 seconds

Indicator: Visual and selectable audible

Alarm Volume: User adjustable

Alarm Outputs: TTL compatible 0 - 5 volts, outputs on rear panel. Independent per alarm type

FEATURES

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

Analog Output: Rear panel BNC connectors for +/- 5 volts vertical and horizontal

NORTEC 210 MODULE



Includes all Nortec 200 Module specifications in addition to the following:

FEATURES

Scanner Compatibility: Will operate the following Nortec NDT scanners: Spitfire, RA 2000, PS-5AL, RA19, PS-4, PS-3, PS-2, MiniMite

Waterfall Display (PS-5AL only): Stores up to 64 sweeps per hole and includes an on-screen readout of the distance from the start of the scan to the defect

Digital Conductivity Specification: Digital conductivity display from 0.9% to 100% 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" to 0.015" (0 to 0.38 mm). Accuracy of +/- 0.001" (0.025 mm) over 0.00 to 0.015" (0 to 0.38 mm) range

Conductivity Alarm: Independent High / Low limit alarms can be set for conductive values. Alarms can be triggered positively or negatively.

Liftoff Alarm: Independent High / Low limit alarms can be set for liftoff values. Alarms can be triggered positively or negatively.

NORTEC 215 MODULE



Includes all Nortec 210 Module specifications in addition to the following:

TEST MODES

- 1) Single frequency with one probe
- 2) Dual frequency with one probe

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

Display Modes: Impedance Plane, Auto Sweep, External Sweep, Waterfall, Conductivity / Ltoff

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.

NORTEC 220 MODULE



Includes all Nortec 215 Module specifications in addition to the following:

TEST MODES

- 1) Single frequency with two separate probes (2 channel). The probes are operated independently at the same or related frequencies. Either probe can be absolute or differential, bridge or reflection
- 2) Dual frequency with one probe
- 3) Scanner compatibility through channel 1

All modules are customer-interchangeable.



NORTEC PS-4 CONTROLLER



NORTEC PS-4 CONTROLLER

Speed Range: Up to 1500 rpm

Probe Holder: 0.5 inch (12.7 mm) collet

Outputs: 16-pin LEMO Eddy Current signal interface. Index pulse BNC

Scanner Connector: 22-pin Burndy contains the power, signal, and interfaces.

Power Supply: 100 to 240 volts, 50 - 60 Hz, 2.2 amps max

Size: 9.25" W x 7.5" D x 3.4" H (235 mm x 190 mm x 86 mm)

Weight: 4.5 lbs. (2.04 kg)

Control: revolutions per minute is adjusted via the SmartKnob™ located on the front panel of PS-4 Controller module.

Mounting: Controller mounts to the top of the WorkStation via 4-pin latches



NORTEC WORKSTATION CONTROL PANELS

NORTEC & UNIVERSAL KEYPADS

All control panels are customer-interchangeable.



NORTEC Control Panel: Dedicated for Eddy Current testing only



Universal Control Panel: Electroluminescent display, automatically recognizes NDT discipline in use



NORTEC WORKSTATION SPECIFICATIONS*

GENERAL

Dimensions: 8" L x 13" W x 9.5" D
(203 mm x 330 mm x 240 mm)

Frequency Range: 50 Hz to 12 MHz

Display: 8 inch (203 mm) diagonal full
VGA 640 x 480 pixel count color liquid
crystal display

Display Update: 60 Hz

Operating Temperature: 32° to 131° F
(0° to 55° C)

Storage Temperature: 5° to 158° F
(-15° to 70 ° C)

POWER

AC: 90 to 264 VAC, 47 to 63 Hz

DC: Ni-MH battery; integrated battery
pack / charger

Battery Operating Time: 4 to 6 hours
depending on configuration

Humidity: 95% per MIL-PRF-28800F

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

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

ADDITIONAL FEATURES

PowerLink™: Automatic transducer
recognition and application setups.
Transducer identification on printouts

Program & Screen Storage: Provides
ability to store up to 200 screen
captures in nonvolatile memory.
Supports naming of setups

Report Fields: 18 fields with 38
user-defined characters per field

Clock, Calendar: Time and date
information stored and printed with
each waveform

Languages: Selectable - English, Spanish,
French, German, and Italian

Software: Windows-based
WorkMaster™

OUTPUTS

RS-232C: DB-9 connector for serial data

LAN or Twisted Pair Ethernet: 10 BaseT

VGA Output

USB: Universal Serial Bus

Printer: Connection for parallel printers

Analog output BNC Connectors: Module
specific. See module data for details.

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