

NORTEC 600 Eddy Current Flaw Detector Getting Started Guide

Intended Use

The NORTEC 600 is designed to perform nondestructive inspections of industrial and commercial materials. Do not use the NORTEC 600 for any purpose other than its intended use.

Instruction Manual

Before use, thoroughly review the NORTEC 600 *User's Manual*. Use the product as instructed. The User's Manual contains essential information on how to use this Evident product safely and effectively. Keep the User's Manual in a safe, accessible location.

Safety Signal Words



DANGER

Indicates an imminently hazardous situation and calls attention to a procedure, practice, or the like that if not correctly performed or adhered to will result in death or serious personal injury.



WARNING

Indicates a potentially hazardous situation and calls attention to a procedure, practice, or the like that if not correctly performed or adhered to could result in death or serious personal injury.



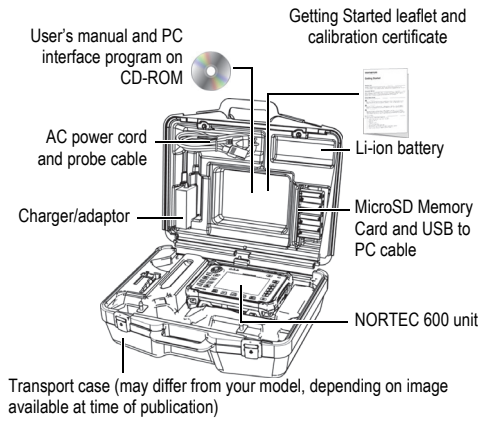
CAUTION

Indicates a potentially hazardous situation and calls attention to an operating procedure, practice, or the like that if not correctly performed or adhered to may result in minor or moderate personal injury, material damage, particularly to the product, destruction of part or all of the product, or loss of data.

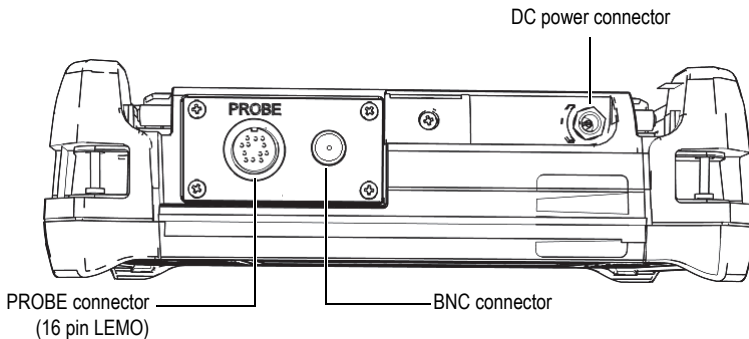
Contents of the Case

The NORTEC 600 comes standard with several key accessories:

1. ISO-15548 certificate or calibration certificate (short form of the ISO-15548) (P/N: 7922035 [U8030145]).
2. Charger/adaptor (P/N: EP-MCA-X), where "X" represents the power cord model (refer to the *User's Manual*)
3. AC power cord
4. *Getting Started* leaflet (P/N: DMTA-10039-01YY, where "YY" denotes the language)
5. NORTEC 600 *User's Manual* and PC interface program on CD-ROM (P/N: N600-CD [U8030151])
6. Instrument transport case (P/N: 600-TC [U8780294])
7. Universal PowerLink eddy current probe cable (P/N: 9122083 [U8800073]). Although in some countries this item may be included, for most countries it is optional and must be purchased separately. Please contact your Evident representative for more details.
8. microSD memory card, 2 GB (1 internal, 1 external) (Evident P/N: MICROSD-ADP-2GB [U8779307])
9. USB 2.0 (mini-AB) to PC cable (P/N: EPLTC-C-USB-A-6 [U8840031])
10. 73 watt-hour battery for 600 Series products, 10.8 V, 6.8 Ah, 73 Wh (P/N: 600-BAT-L-2 [U8760058])
11. AA battery holder for emergency use (Evident P/N: 600-BAT-AA [U8780295])
12. Factory-installed hand strap on left side of NORTEC 600 instrument (Evident P/N: 38DLP-HS [U8779371])



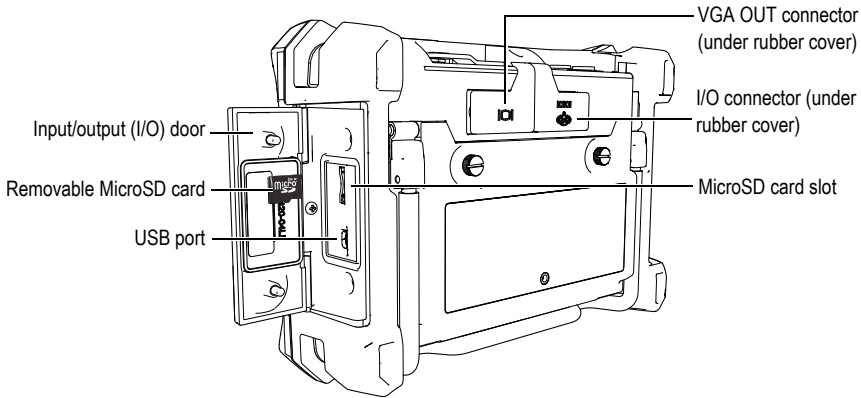
Connections and Electrical Warning





CAUTION

Do not allow metallic or foreign objects to enter the device through connectors or any other openings. Otherwise, an electric shock or malfunction may result.



Charging the Lithium-Ion Battery

The NORTEC 600 charges the internal lithium-ion battery while it is connected to the AC charger/adaptor.



WARNING

If the NORTEC 600 is to be used with a rechargeable battery, only use Evident battery P/N: 600-BAT-L-2 [U8760058]. Using any other type of battery might cause an explosion and injury.



WARNING

The NORTEC 600 charger/adaptor (P/N: EP-MCA-X) is designed to power the NORTEC 600 and charge the lithium-ion battery only (P/N: 600-BAT-L-2 [U8760058]). Do not attempt to charge any other batteries, including alkaline batteries, using the battery holder (P/N: 600-BAT-AA [U8780295]), and do not use any other charger/adaptor. Doing so might cause an explosion or injury.

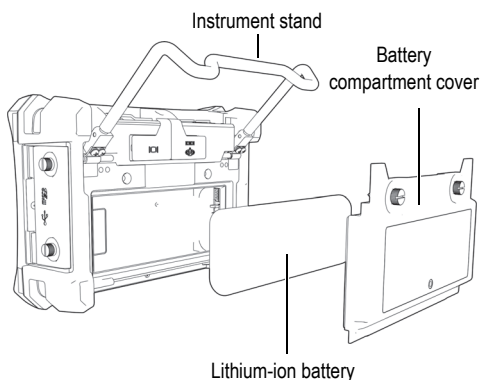
Do not attempt to power or charge other electronic equipment with the charger/adaptor (P/N: EP-MCA-X) unless specifically instructed in the manual. Misuse of the charger/adaptor can cause other batteries and/or instruments to explode, leading to serious injury or death.

IMPORTANT

The lithium-ion battery is not fully charged when the instrument is shipped. You must charge the battery for two to three hours before using the battery power to operate the instrument.

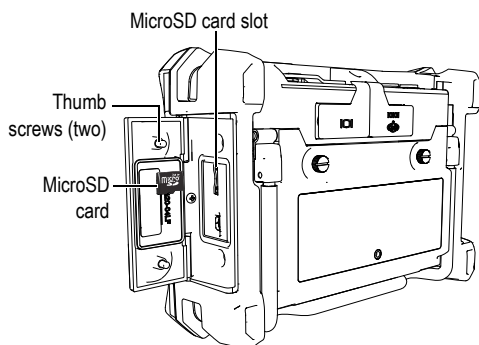
To Install or Replace the Lithium-Ion Battery

1. Unfold the instrument stand.
2. Unscrew the two thumb screws securing the battery compartment cover at the back of the instrument.
3. Remove the battery compartment cover.
4. Remove the battery and/or install the new battery (P/N: 600-BAT-L-2 [U8760058]) in the battery compartment.
5. Check the cover gasket to make sure it is clean and in good condition.
6. Install the battery compartment cover, and then tighten the two thumb screws.



To Install the MicroSD Card

1. Remove the MicroSD card (P/N: MICROSD-ADP-2GB [U8779307]) from its packaging.
2. Loosen the two thumb screws, and then open the instrument I/O door.
3. Hold the card so that the MicroSD card label faces toward the rear of the instrument.
4. Gently slide the card into the MicroSD slot until it clicks.



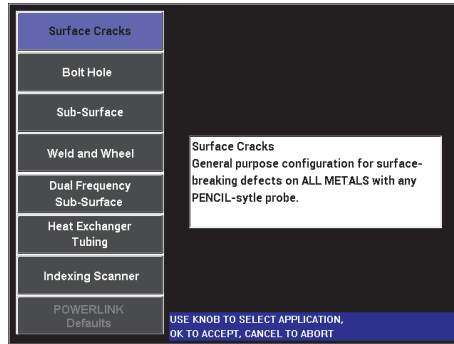
NOTE

To remove the MicroSD card from the instrument, gently push the card into the slot and release. A spring-loaded mechanism will partially eject the card, and then you can grasp and remove it from the instrument.

Starting Up the Instrument

When power is turned on, the NORTEC 600 starts up in one of two modes, depending on what is connected to the instrument.

If no probe is connected, or if a probe that is not a PowerLink type of probe is connected, the first screen displayed by the NORTEC 600 software is the application quick-setup menu. Choose from among the basic applications on this menu to automatically configure the appropriate instruments settings.



NOTE

The NORTEC 600 applications are designed for quick setup of the instrument. However, always follow published maintenance procedures when inspecting.

Navigating the Application Menu

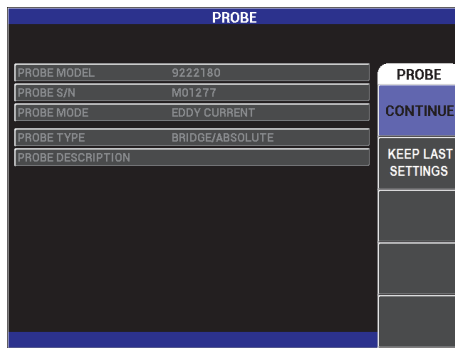
Navigating the menu is designed to be intuitive, and the settings for each application have been programmed to permit immediate inspection; little or no additional instrument setup is needed.

1. Rotate the knob to highlight one of the eight applications.
2. Press the Enter key (✓) to select the application.

OR

Press the Return key (↶) to go back to the NORTEC 600 main screen.

Alternatively, if a PowerLink probe is connected to the instrument when it is turned on, the NORTEC 600 starts up in the PowerLink recognition screen.



Proceed as follows:

- ◆ In the PowerLink recognition screen, load the program stored in the PowerLink probe to set up the instrument by pressing the A function key.

The **KEEP LAST SETTINGS** function lets you load the previous parameters if they are compatible with the probe or accessory that is detected.

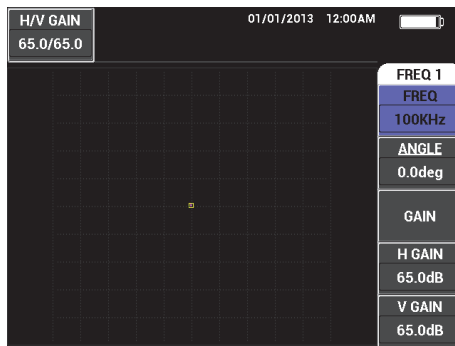
This automatically sets up the instrument.

OR

Bypass the stored program in the probe by pressing the Return key (↵) to gain access to the instrument's main inspection screen.

Main Inspection Screen

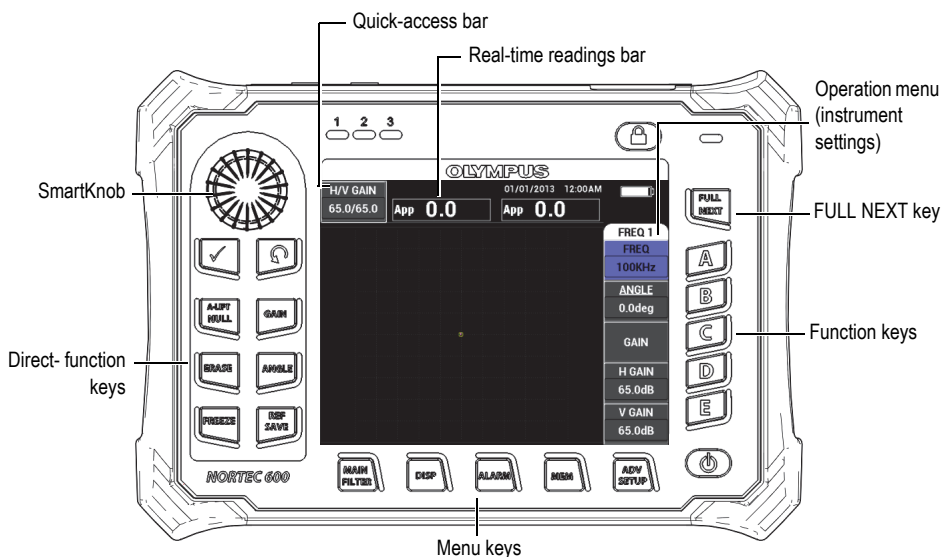
After the initial steps through the quick-setup menu or PowerLink menu, the main inspection screen is displayed.



The battery power indicator always remains visible at the top of the screen, except when in full-screen mode. The time and date also always remain visible, except when in full-screen mode.

The rectangular readout in the top-left corner of the screen is named the quick-access bar. It displays either the instrument's combined horizontal and vertical gain settings, horizontal gain only, vertical

gain only, or angle setting when the GAIN (**dB**) or ANGLE (◁) direct-function keys are pressed. The quick-access bar remains visible until any other key is pressed.



The real-time readings bar displays user-configurable readings (measurements). It can display a maximum of two real-time readings from among the available choices. The real-time readings bar can be set to display one or two readings, or it can be disabled.

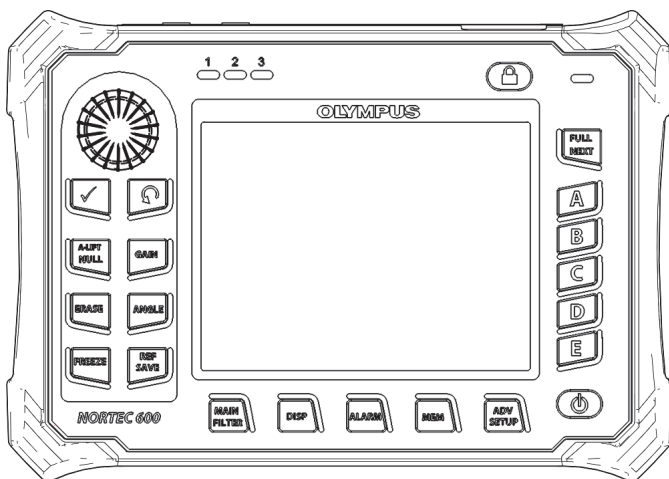
The instrument settings are displayed on the right hand side of the main screen. The displayed settings information can change, depending on the menu key that is pressed. The menu keys are the

five keys located along the bottom of the front panel: MAIN FILTER (), DISP (), ALARM (), MEM (), and ADV SETUP ().

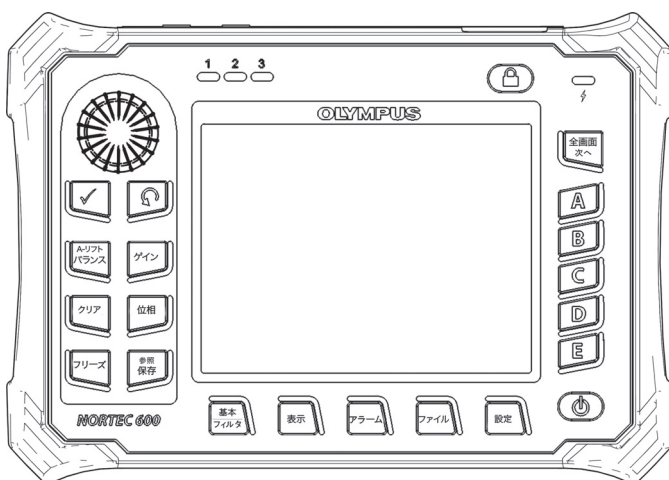
Depending on the context and on the available functions and options, various indicators and numeric values appear on the screen and around the main measurement value.

Keypads

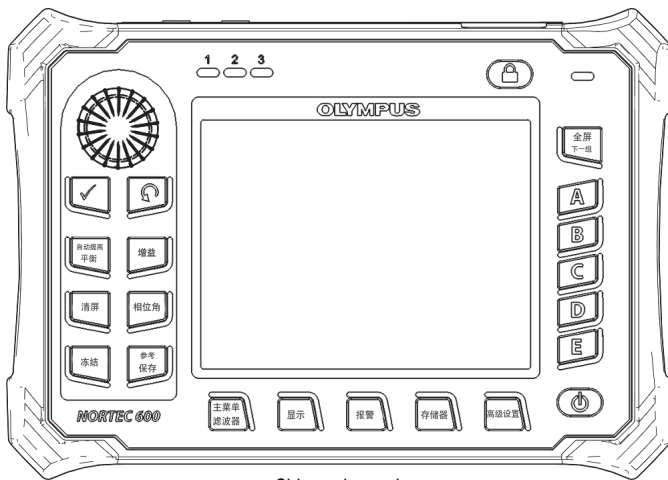
The NORTEC 600 is available with an English, Chinese, Japanese, or international keypad configuration. The text labels on some keys may be replaced by pictograms, depending on the keypad configuration.



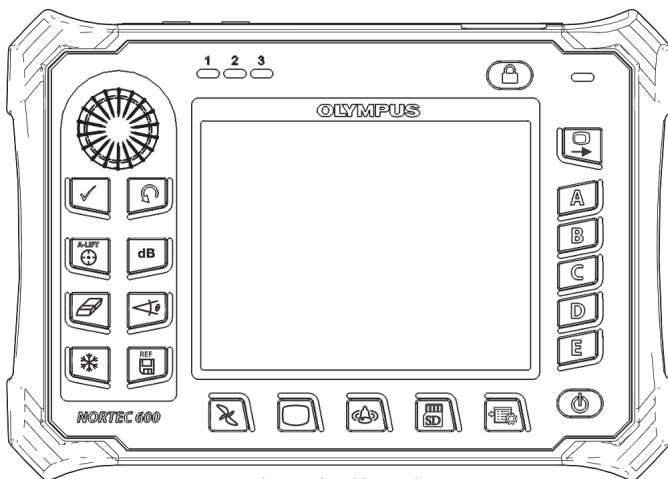
English keypad



Japanese keypad













Chinese keypad



International keypad

Function name	International keypad symbol	Function description
Enter	✓	The Enter key is used to make selections.
Return	↶	The Return (or Back) key is used to exit a menu and return to a previous screen.
MAIN FILTER	✂	Provides access to the main menu, which controls functions such as frequency, gain, angle, and filters.

Function name	International keypad symbol	Function description
DISP		Provides access to the display menu, which controls functions such as display mode, position, trace, and grid.
ALARM		Provides access to the alarm menu, which controls functions such as alarm type, dwell time, horn volume, and alarm position.
MEM		Provides access to the memory menu, which controls functions such as previewing stored memory files, recalling and editing stored files, capture mode, capture time, and user information.
ADV SETUP		Provides access to the instrument's advanced settings, including the application selection menu, ALL SETTINGS menu, frequency mode, colors, password, systems setup, reset, unlock options, and legal/regulatory information.
A-LIFT NULL		If this direct-function key is pressed once, it nulls (zeros) the instrument. If this key is pressed and held, the Auto Ltoff is set.
GAIN	dB	Direct-function key used to display either the instrument's combined horizontal and vertical gain settings, horizontal gain only, or vertical gain only.
ERASE		Direct-function key used to erase the currently displayed image.
ANGLE		Direct-function key used to display the angle.
FREEZE		Direct-function key used to freeze the image displayed on the instrument for further evaluation. When the image is frozen, the NORTEC 600 also allows calibrating the eddy current signals, and changing the gains or angle.
REF SAVE		Direct-function key used to save images and settings in the instrument's memory. When this key is pressed once (and released), the currently displayed image and settings are saved. When this key is pressed and held, the current instrument image is set as the reference memory display.
FULL NEXT		Used to expand the instrument display to full screen, or to select items in the menu.
A	A	Function key
B	B	Function key

Function name	International keypad symbol	Function description
C	C	Function key
D	D	Function key
E	E	Function key

Battery Precautions



CAUTION

- Before disposing of a battery, check your local laws, rules, and regulations, and follow them accordingly.
- Transportation of lithium-ion batteries or AA-size lithium metal batteries is regulated by the United Nations under the United Nations Recommendations on the Transport of Dangerous Goods. It is expected that governments, intergovernmental organizations, and other international organizations shall conform to the principles laid down in these regulations, thus contributing to worldwide harmonization in this field. These international organizations include the International Civil Aviation organization (ICAO), the International Air Transport Association (IATA), the International Maritime Organization (IMO), the US Department of Transportation (USDOT), Transport Canada (TC), and others. Please contact the transporter and confirm current regulations before transportation of lithium-ion batteries or lithium metal batteries.
- Do not open, crush, or perforate batteries; doing so could cause injury.
- Do not incinerate batteries. Keep batteries away from fire and other sources of extreme heat. Exposing batteries to extreme heat (over 80 °C) could result in an explosion or personal injury.
- Do not drop, hit, or otherwise abuse a battery, as doing so could expose the cell contents, which are corrosive and explosive.
- Do not short-circuit the battery terminals. A short circuit could cause injury and severe damage to a battery, making it unusable.
- Do not expose a battery to moisture or rain; doing so could cause an electric shock.
- Only use the NORTEC 600 unit or an external charger approved by Evident to charge the batteries.
- Only use batteries supplied by Evident.
- Do not store batteries that have less than 40 % remaining charge. Recharge batteries to between 40 % and 80 % capacity before storing them.
- During storage, keep the battery charge between 40 % and 80 %.
- Do not leave batteries in the NORTEC 600 unit during instrument storage.

Equipment Disposal

Before disposing of the NORTEC 600, check your local laws, rules, and regulations, and follow them accordingly.

Trademarks

microSD Logo is a trademark of SD-3D, LLC.



All brands are trademarks or registered trademarks of their respective owners and third party entities.

EVIDENT SCIENTIFIC INC., 48 Woerd Avenue, Waltham, MA 02453, USA

EvidentScientific.com

Printed in the United States of America • Copyright © 2022 by Evident. All rights reserved.



Part ID: U8030146



DMTA-10039-01EN
Rev. F, September 2022



Printed on Rolland Hitech50,
which contains 50 % post-
consumer fiber.