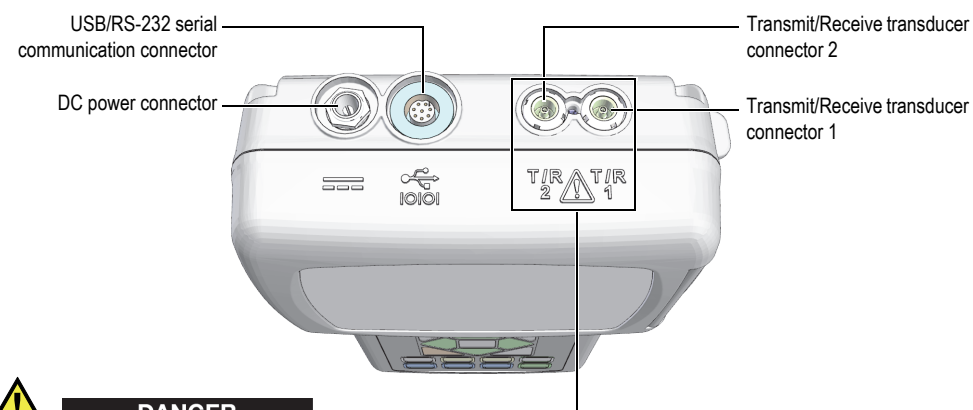
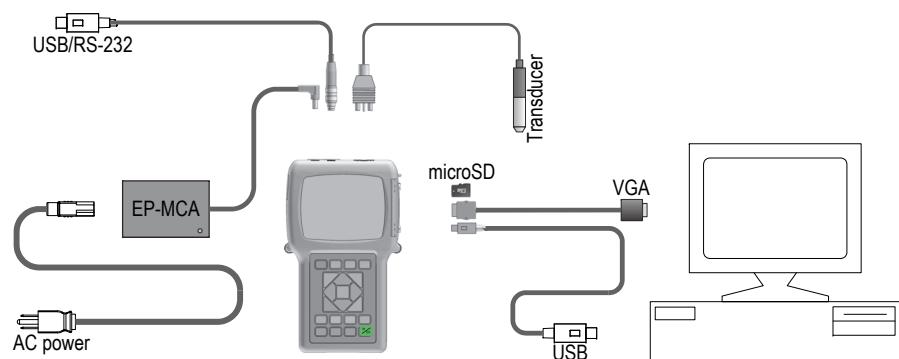
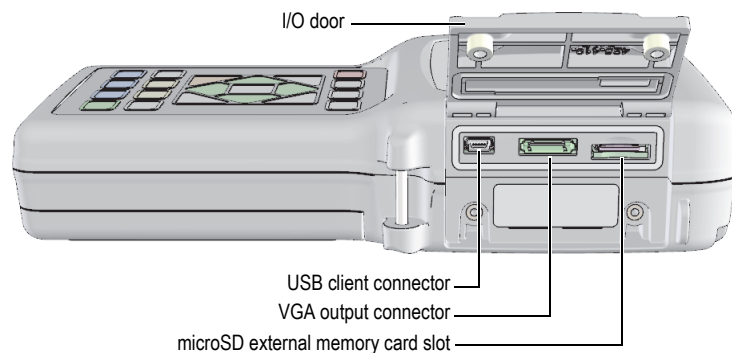


## Connections



**⚠ DANGER**

Do not touch the inner conductors of the T/R 1 and T/R 2 connectors to avoid the risk of an electric shock. Up to 200 V can be present on the inner conductor.

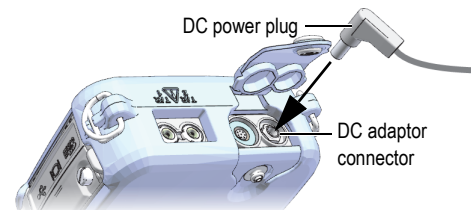


**⚠ IMPORTANT**

The battery is not fully charged when the instrument is shipped. You must fully charge the battery before operating the 38DL PLUS using the battery power.

## To Charge the Battery

- On the 38DL PLUS:
  - Lift the rubber seal to access the DC adaptor connector.
  - Connect the DC power plug from the EP-MCA charger/adaptor to the DC adaptor connector.
- Connect the AC power cord to the EP-MCA charger/adaptor, and then to an appropriate line power source.
- On the keypad, press **[ON/OFF]**.  
The EP-MCA charger/adaptor charges the internal battery while it is connected to the 38DL PLUS.

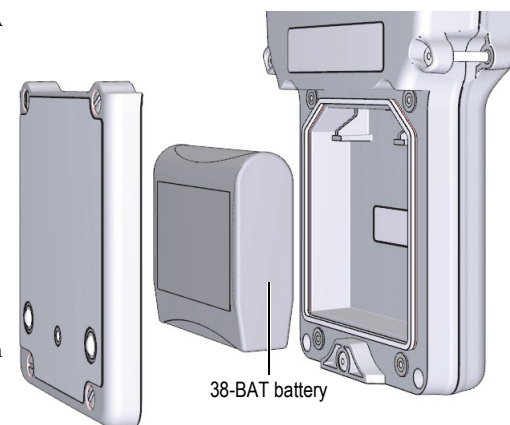


**⚠ WARNING**

The 38DL PLUS charger/adaptor (P/N: EP-MCA [U8767042]) is designed to charge 38DL PLUS batteries only (P/N: 38-BAT [U8760054]). Do not attempt to charge any other type of battery with the EP-MCA or use any other model of charger/adaptor with the 38DL PLUS. Doing so might cause an explosion or injury. Do not attempt to power or charge other electronic equipment with the EP-MCA charger/adaptor as this could cause death or serious personal injury as the result of an explosion.

## To Replace the Battery

- Disconnect the instrument from the EP-MCA charger/adaptor.
- Turn off the instrument.
- Remove the protective rubber boot.
- At the back of the instrument, using a flat-head screwdriver, unscrew the four screws securing the battery compartment cover.
- Remove the battery compartment cover.
- Pull on the battery connector to disconnect the battery.
- Remove the battery.
- Connect another 38-BAT battery into place in the battery compartment.
- Ensure that the gasket of the battery compartment cover is clean and in good condition.
- Reinstall the battery compartment cover.
- On the keypad, press **[ON/OFF]** to start the instrument.
- At the **New battery type?** prompt, select **Li-ion** when using a 38-BAT battery, or **NiMH** or **Alkaline** when using four AA batteries with the AA battery holder.
- Press **[ENTER]**.



## To Start Using a D79X Dual Element Transducer

- Plug the transducer into the transducer connectors at the top of the instrument.
- Press **[ON/OFF]** to turn on the instrument.
- Wipe couplant off the transducer tip, and then press **[2nd F]**, **[CAL ZERO]** (**Do ZERO**).  
The 38DL PLUS is now ready to take thickness readings using the default velocity for the test block supplied with the instrument.

## To Start Using a Single Element Transducer

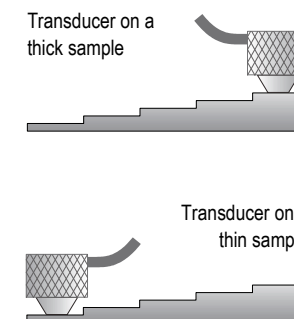
The 38DL PLUS comes with factory default settings for the transducers you have purchased. The default settings use an approximate sound velocity for the stainless steel test block that was provided with the instrument.

- Connect the transducer to the transducer cable, and then plug the cable into the T/R 1 connector at the top of the instrument.
- Press **[ON/OFF]** to turn on the instrument.
- Press **[XDCR RECALL]**.
- In the menu, select **DEFAULT SINGLE ELEMENT**.
- In the **SELECT SETUP** list of the **DEFAULT SINGLE ELEMENT** screen, highlight the setup that corresponds to the transducer you are using, and then press **[ENTER]**.
- In the **ACTIVE** screen, if needed, edit the parameters to match the characteristics of the transducer that you are using, and then press **[MEAS]**.  
The 38DL PLUS is now ready to take thickness readings using the default velocity for the test block supplied with the instrument.

## To Calibrate the Instrument

You must calibrate the 38DL PLUS to ensure the thickness measurement accuracy for the transducer used and for the tested material. This is done by performing the velocity calibration and the zero calibration on two known thicknesses of a test block (such as a 5-step test block shown below) made of the same material as the inspected parts.

- Place couplant on the surface of the thick sample of the test block.
- Couple the transducer on the thick sample of the test block.
- Press **[CAL VEL]**.
- When the thickness reading is stable, press **[ENTER]**.
- Use the arrow keys to enter the known thickness.
- Press **[CAL ZERO]**.
- Place couplant on the surface of the thin sample of the test block.
- Couple the transducer on the thin sample of the test block.
- When the thickness reading is stable, press **[ENTER]**.
- Use the arrow keys to enter the known thickness.
- Press **[MEAS]**.

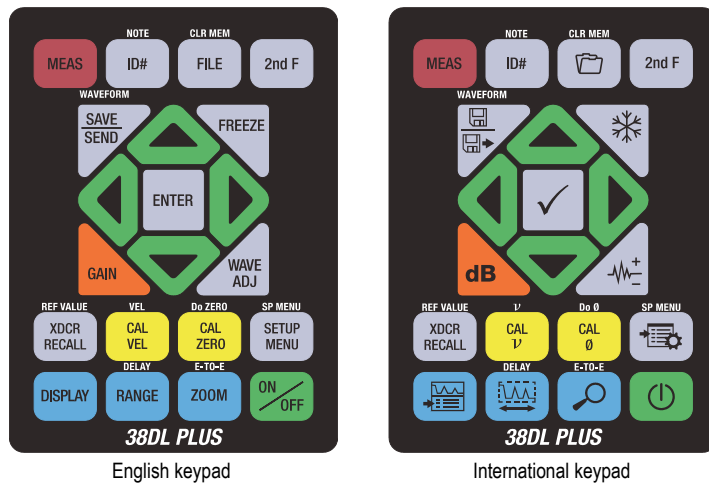


**Note:** For more information on calibration and selecting the correct transducer for a specific application, refer to the *38DL PLUS Ultrasonic Thickness Gage – User's Manual* (P/N: DMTA-10004-01EN) or contact Evident.

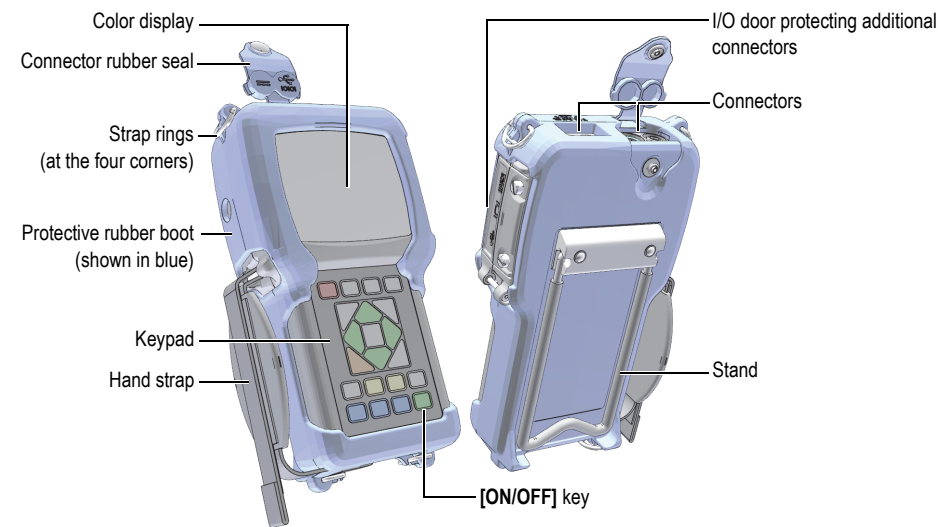
## Keypad Functions

The 38DL PLUS comes either with the English or the international keypad. The functions are the same for the two keypads. On the international keypad, the text labels on many keys are replaced by pictograms. In the 38DL PLUS user documents, keypad keys are referred to using the English label in bold and within brackets (ex.: **[FILE]**).

Each key indicates its primary function. The area just above some of the keys indicates a secondary key function. The **[▲]**, **[▼]**, **[◀]**, **[▶]**, and **[ENTER]** keys are used to select menu items and screen parameters, and to change parameter values. Use the **[MEAS]** key at any time to return to the measurement screen.



## Instrument Hardware Components



**EVIDENT™**

# Getting Started

## 38DL PLUS Ultrasonic Thickness Gage

### Intended Use

The 38DL PLUS instrument is designed to measure thicknesses of industrial and commercial parts. Do not use the 38DL PLUS instrument for any purpose other than its intended use.

### Instruction Manual

This document only contains information to start using the 38DL PLUS. The *38DL PLUS Ultrasonic Thickness Gage – User’s Manual* (P/N: DMTA-10004-01EN) contains complete and essential information on how to use the 38DL PLUS safely and effectively. Before use, thoroughly review the *User’s Manual*, and use the product as instructed. Keep the *User’s Manual* in a safe and accessible location.

### Safety Signal Words



Indicates an imminently hazardous situation calling attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in death or serious personal injury.

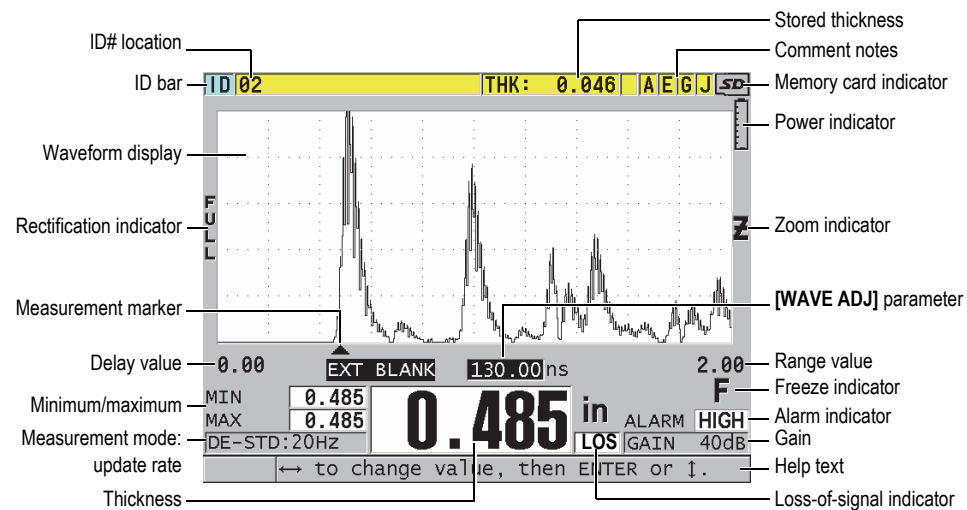


Indicates a potentially hazardous situation calling attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in death or serious personal injury.



Indicates a potentially hazardous situation calling attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could 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.

## Measurement Screen



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

Printed in the United States of America • © 2022 by Evident. All rights reserved.  
All brands are trademarks or registered trademarks of their respective owners and third party entities.

DMTA-10010-01EN [U8778357] Rev. B



Printed on 55 % recycled, 30 % post consumer waste paper

