

# TNT 12000 DoseMate

## Dosimeter Detector

### Quick Reference Guide

#### Introduction

The TNT 12000 DoseMate makes accurate dose and dose rate measurements quickly. Figure 1 and Table 1 shows the typical TNT 12000 components used for these measurements.



grk01.eps

**Figure 1. TNT 12000 Components**

**Table 1. TNT 12000 Components**

Item	Description
①	TNT 12000WD X-Ray Test Display
②	TNT 12000 DoseMate
③	150 cc Ion Chamber
④	15 cc Ion Chamber
⑤	TRIAX Ion Chamber Cable

## **Setup for a Measurement**

### **Warning**

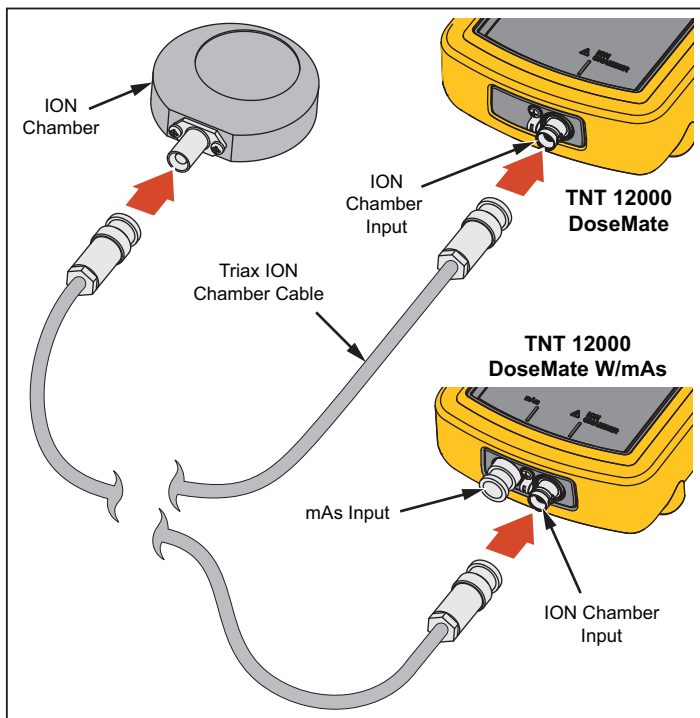
To prevent electric shock and damage to the ion chamber, turn off the DoseMate before connecting or disconnecting the ion chamber and triaxial cable. Although current limited, the center pin and inner shield shell operates at 300 volts above the outer shell.

#### *Note*

*Be sure the DoseMate and the X-Ray Test display are charged before use. See the How to Charge the Battery section in the TNT 12000 Users Manual.*

## Connect the Ion Chamber

Remove the dust caps and connect the DoseMate to an ion chamber as shown in Figure 2.



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**Figure 2. Ion Chamber Connection**

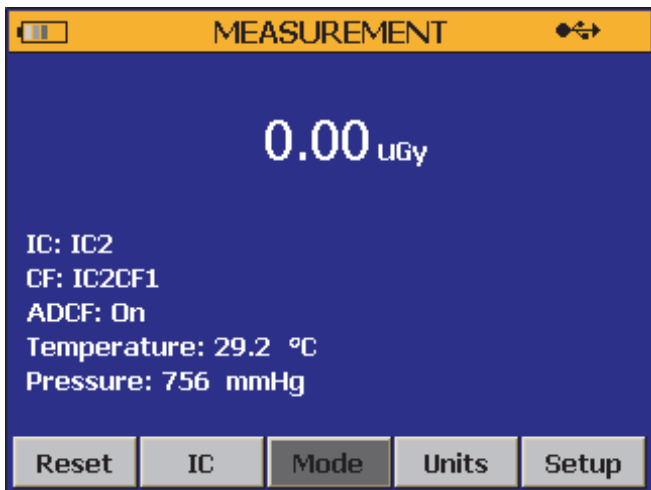
Set the Ion Chamber on a stable surface in the center of the X-ray beam.

## Power On

Turn on the DoesMate and the display. The display looks for a detector and makes a connection when found. The connection can be through a USB cable or wireless. The **MEASUREMENT** screen in Figure 3 will show in the display.

### Note

*If the DoseMate has an integrated mAs detector, then a connection screen shows before the measurement screen. Use  $\uparrow$  or  $\downarrow$  to highlight the DoseMate and then use  $\rightarrow$  or  $\leftarrow$  to highlight the **Connect** button. Push **ENTER** to connect and show the Measurement screen in Figure 3.*



grk03.png

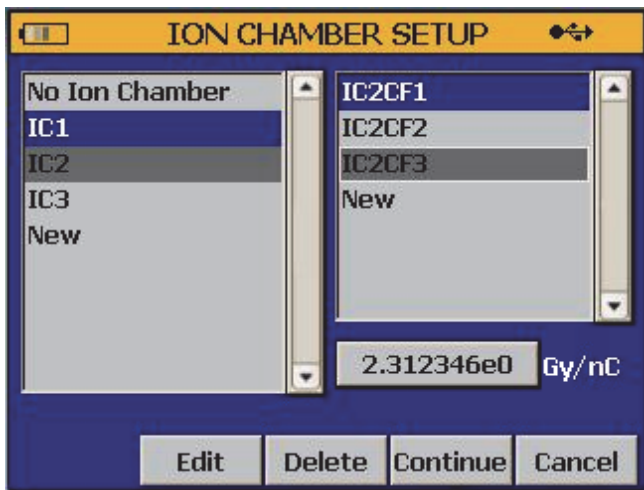
**Figure 3. Measurement Screen**

To learn more, see the How to Setup Up the System in the TNT 12000 Users Manual.

## Select an Ion Chamber

To set an ion chamber and its calibration factor in to the DoseMate:

1. Push **▶** or **◀** to highlight the **IC** button in the **MEASUREMENT** screen.
2. Push **ENTER** to show the **ION CHAMBER SETUP** screen in Figure 4 in the display.



fct241.png

**Figure 4. Ion Chamber Setup Screen**

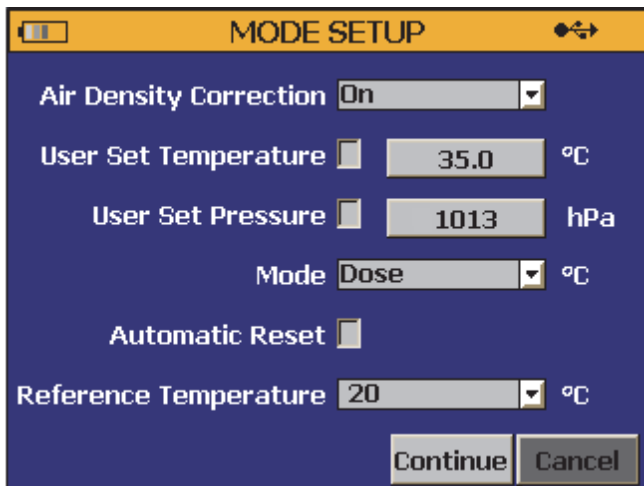
3. Push **▲** or **▼** to highlight an ion chamber ID in the left frame and push **ENTER**. The cursor moves to the right frame.
4. Push **▲** or **▼** to highlight a calibration factor and push **ENTER**. The cursor moves to the **Continue** button.
5. Push **ENTER** to return to the **MEASUREMENT** screen.

To learn more about ion chambers and calibration factors, see the How to Use the Dosimeter section in the *TNT 12000 Users Manual*.

## Set the Measurement Mode

To set the measurement mode:

1. Push **▶** or **◀** to highlight the **Mode** button at the bottom of the measurement screen. Push **ENTER** to show the **MODE SETUP** screen in Figure 5.



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**Figure 5. Mode Setup Screen**

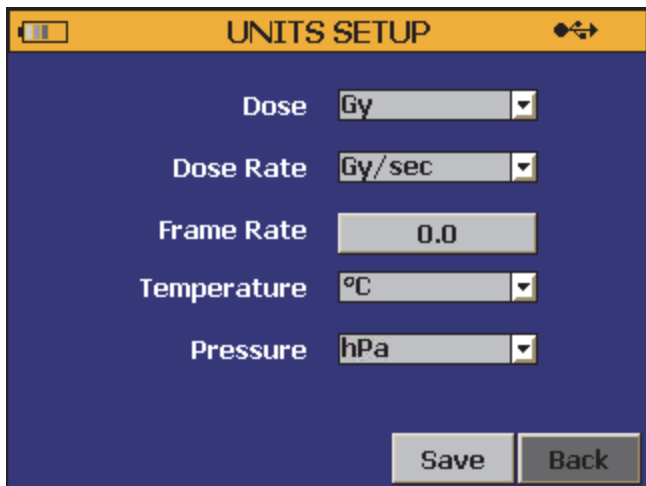
2. Push **▲** or **▼** to highlight the **Mode** combo box and push **ENTER** to open the dropdown list.
3. Push **▲** or **▼** to highlight the **Dose** mode and push **ENTER**.
4. Push **▼** to highlight the **Automatic Reset** checkbox and push **ENTER** to check the box.
5. Push **▼** to highlight the **Continue** button and push **ENTER** to return to the **MEASUREMENT** screen.

To learn more about measurement modes, see the Measurement Mode Selection section in the *TNT 12000 Users Manual*.

## Set the Measurement Units

To set the measurement units:

1. Push **▶** or **◀** to highlight the **Units** button at the bottom of the measurement screen. Push **ENTER** to show the **UNITS SETUP** screen in Figure 6.



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**Figure 6. Units Setup Screen**

2. Push **▲** or **▼** to highlight the **Dose** combo box and push **ENTER** to open the dropdown list
3. Push **▲** or **▼** to highlight the dose units (R or Gy) and push **ENTER**.
4. Push **▼** to highlight the **Save** button and push **ENTER** to return to the measurement screen.

## **Make a Measurement**

### *Note*

*Keep the DoseMate out of the radiation field. Only the ion chamber must be exposed to the radiation.*

1. Set the X-ray machine for a typical X-ray technique.
2. After the “**Resetting ... Please Wait...**” message is removed from the display, make a radiographic X-ray exposure.
3. The DoseMate beeps when an exposure is sensed and shows the measurement results in the display.

The DoseMate shows the “**Resetting ... Please Wait...**” message at the bottom of the measurement screen while it prepares for a subsequent X-ray exposure. The DoseMate can only make a measurement when this message is not shown in the display.