



Neptune Android NGO™ Application Users' Manual



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Chapter 1 Neptune Android NGO Application

Introduction

Neptune's R900® System allows utilities to connect to the R900® Belt Clip Transceiver (R900 BCT) from an Android phone or tablet to receive reading/flag information for one specific R900® or from all R900s within range. The NGO™ application (NGO app) must be installed on the Android device before you can use it with the R900 BCT.

The Android device and the R900 BCT communicate through a Bluetooth connection. After the connection is made between the Android device and the R900 BCT, the RF transmissions from the R900 MIU, the E-Coder®)R900i™, or the R900®G are received by the R900 BCT and are sent to the Android device. Multiple types of data such as MIU ID, reading, count, E-Coder® flags, and even up to 96 days of hourly consumption data (data logging) can be viewed within the app.

Before You Begin

Before you can use the NGO app, you must have the following products available:

- Neptune R900 BCT
- Android phone or tablet with a Google Play account

Downloading the App

After you have these devices, you can download the app to the Android device from the Google Play Store.

To download the NGO app, complete the following steps.

- 1 Open the **Google Play Store** app on the Android device.
- 2 Search for **NGO**.
- 3 Press **Install**.
- 4 Review the app's permissions, then press **Accept** to authorize the download.

The app begins to download shortly.

Before you can use the app, you must obtain a customer number and a license key. To obtain a license key, contact Neptune NGO Support at (800) 647-4832. If you have an Android phone you can select **call for the license key** within the app. See Figure 1 on page 3.

Entering Customer Number and License Key

When entering the app for the first time, you must do the following.

- 1 Enter a valid Customer Number and License Key. See Figure 1 on page 3.

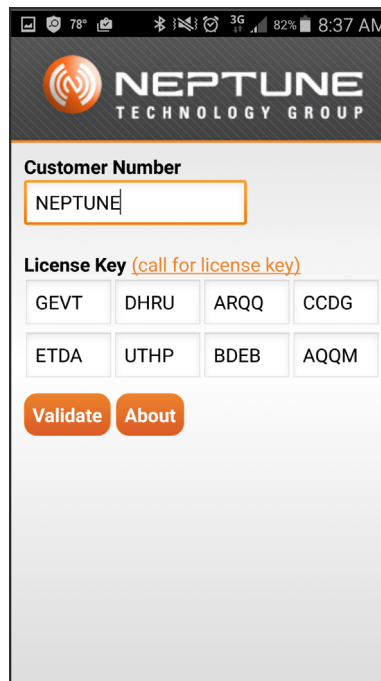


Figure 1 License Key Setup

2. Click **Validate** when you have finished typing.

After the license key has been validated, the primary NGO screen displays. See Figure 3 on page 5.

3. Select **About** to display information such as the app release version number, Neptune NGO Support contact information, and R900 BCT information. See Figure 2 on page 4.

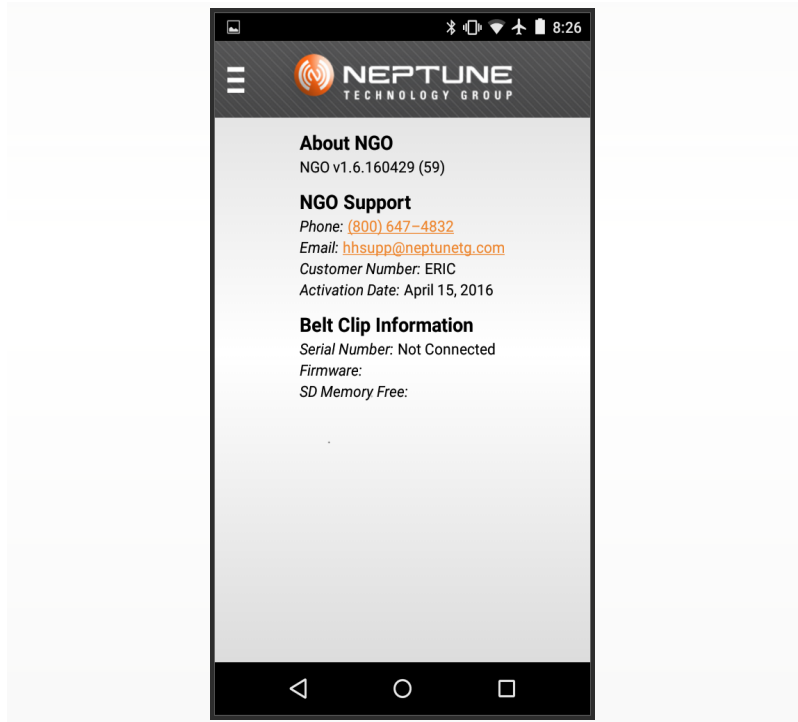


Figure 2 About NGO Screen



Information from this screen can be used to assist customer support with troubleshooting or to view general information about the app and the R900 BCT. When finished, press your device's back button to return to the License Key setup.

Chapter 2 Getting Started

In-App Purchases

After you download the NGO app, accept the license agreement, and enter a license key, the NGO start screen appears. See Figure 3.



Figure 3 NGO Start Screen

Press the menu button. See Figure 4.

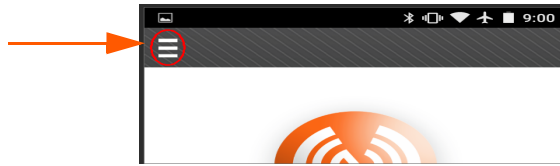


Figure 4 Menu Button

The main menu appears. See Figure 5.

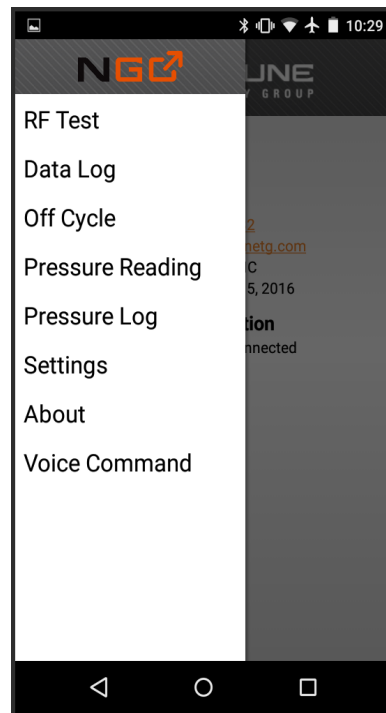


Figure 5 Main Menu

The Data Log, Off Cycle, Pressure Reading and Pressure Log activities are gray to illustrate that they are not yet available for use. You can only activate each of these features by making an in-app purchase.

To purchase, please select one of the following options.

- Data Log
- Off Cycle Read
- Pressure Reading
- Pressure Log



Be sure your device is connected to the Internet.

The following screen appears.

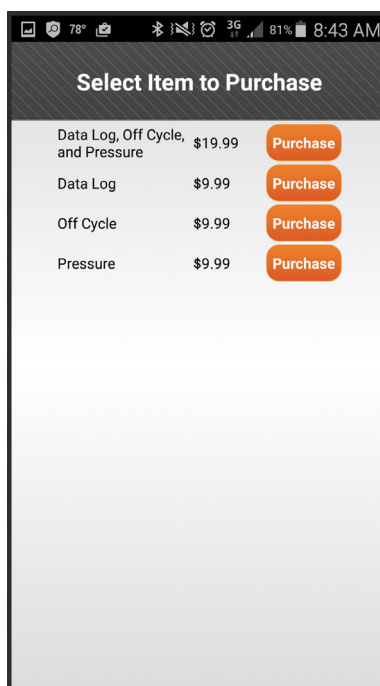


Figure 6 Select Items to Purchase Screen

On this screen, select to purchase one or more functions for a reduced price. This purchase is charged to the form of payment on record with your Google Play account. After a purchase is made, the features are no longer gray and become available for use.

Pairing with the R900 BCT

To pair the app with the R900 BCT, complete the following steps.

- 1 Turn on the R900 BCT, then place it in **Normal Mode**.

The Mode LED is green.

- 2 Select **Settings** from the NGO menu. The **Settings** screen displays. See Figure 7.

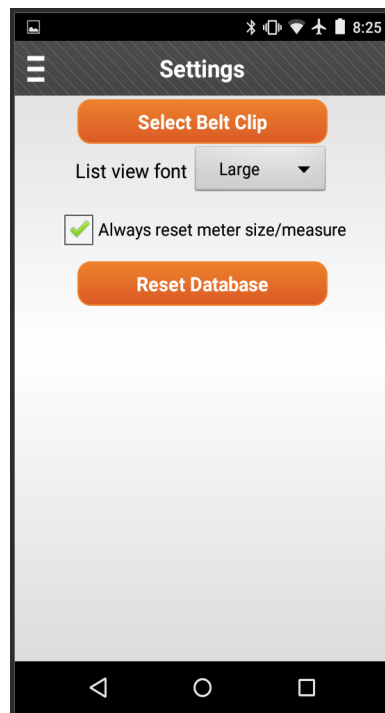


Figure 7 NGO Settings

- 3 Press **Select Belt Clip** and the Select Belt Clip Device screen displays. See Figure 8.



Figure 8 Select Belt Clip Device

4. Select the serial number that corresponds with your device or a device you choose to use.

The Settings screen reappears.

Reading R900 MIUs

After you select and pair with an R900 BCT, select the menu button and then select **RF Test**. The RF Test filter screen appears. See Figure 9 on page 10.

From this screen you can perform the following functions:




- Receive R900 transmissions by pressing **Start**. After you press **Start**, the button changes to **Stop**.
- Stop receiving R900 transmissions by pressing **Stop** at any time.
- View flag details. A  displays on the right side of a row to indicate there is at least one flag for the MIU. When viewing the flag detail information, you can choose to display only one row or you can press  to expand all rows. The specific flag information displays in red.
- Display a specific MIU ID by entering the MIU ID number into the **Filter** text box. See Figure 9.
- Clear all MIU information on the screen by pressing .




Figure 9 RF Test MIU ID Filter



Unique MIUs displays at the bottom of the screen to show you how many unique MIUs have been heard since the last time the **Start** button was pressed. A timer in the bottom right hand corner of the screen appears when you press **Start**, and runs until you press **Stop** or move to a different screen.

Voice Commands

The RF Test main screen has a voice icon () that can be used to navigate within NGO. Voice input is composed of a command, plus the optional action. Some commands require an MIU ID number. The capture screen for data log, off cycle, and pressure log contain a voice icon so the user may speak the MIU ID instead of typing it in.

The following is a chart that explains the voice commands, the actions, if an MIU ID number is required, and a description of what the app will do when the voice command is given.

Table 1 Voice Commands

Voice Command	Action	MIU ID	Description
Data Log		No	Moves to the data log screen
	Capture	No	Moves to the data log capture screen
	Capture	Yes	Moves to the data log capture screen and prefills the MIU ID
	Graph	Yes	Selects the most recent session for the given MIU and displays the data log graph
	Share	Yes	Selects the most recent session for the given MIU and displays the data log share screen


Table 1 Voice Commands

Voice Command	Action	MIU ID	Description
Pressure Log		No	Moves to the pressure log screen
	Capture	No	Moves to the pressure log capture screen
	Capture	Yes	Moves to the pressure log capture screen and prefills the MIU ID
	Graph	Yes	Selects the most recent session for the given MIU and displays the pressure log graph
	Share	Yes	Selects the most recent session for the given MIU and displays the pressure log share screen
Off Cycle		No	Moves to the off cycle screen
	Capture	No	Moves to the off cycle capture screen
	Capture	Yes	Moves to the off cycle capture screen and prefills the MIU ID
	Share	Yes	Selects the most recent session for the given MIU and displays the off cycle share screen
RF Test		No	Moves to the RF Test screen
		Yes	Moves to the RF Test screen, prefills the filter with the MIU ID, and starts recording

Table 1 Voice Commands

Voice Command	Action	MIU ID	Description
Pressure Reading		No	Moves to the pressure reading screen
		Yes	Moves to the pressure screen, prefills the MIU ID, and captures the pressure reading if the MIU is RF capable

To activate voice command, complete the following steps.

- 1 Press  and the following dialog appears.

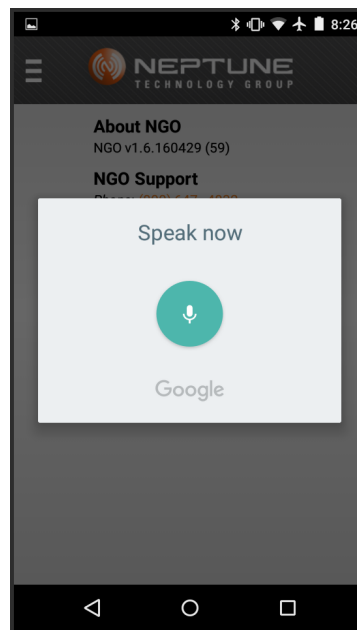


Figure 10 Voice Command

2 Speak your command.



The voice input is composed of a command, plus the optional action (See Table 1 on page 11). Some commands require an MIU ID number.





The information requested is displayed.

Chapter 3 Data Logging

Starting Data Logging

The data logging feature of the app allows you to retrieve up to 96 days of interval consumption data from the E-Coder)R900*i* while paired to the R900 BCT. From the app, the data log can be analyzed using a graph or viewing a report, and data can even be shared with the homeowner as well as with the utility office.

To use the Data Log function, please complete the following steps.

- 1 From the NGO main menu, select **Data Log**.
See Figure 5 on page 6.
- 2 From the main **Data Log** screen, select one of the following options. See Figure 11 on page 16.
 -  - Allows you to connect to a belt clip
 -  - Displays a graph
 -  - Shares data
 -  - Allows you to select a unit of measure and meter size

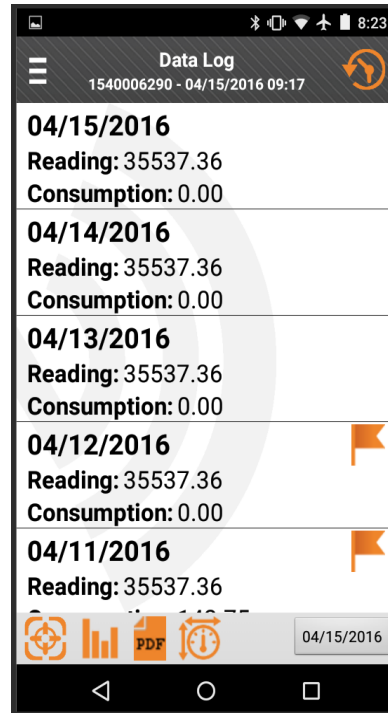



Figure 11 Data Log Screen

Connect

To connect to a device complete the following steps.

- 1 Press  and the connect screen displays. See Figure 12 on page 17.

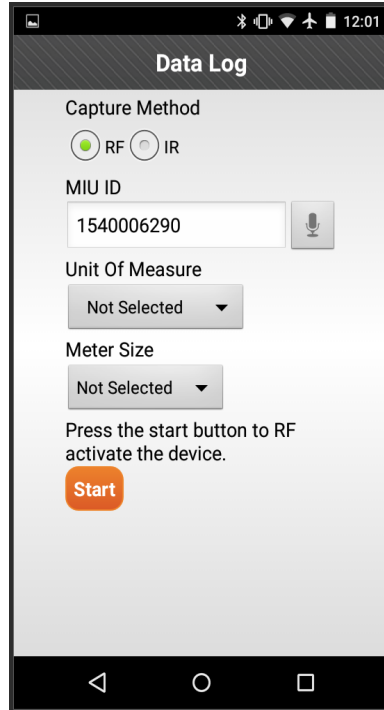




Figure 12 Connect Device Screen

- 2 Select the **Capture Method** as shown in Figure 12.
 - **RF** - Radio Frequency
 - **IR** - Infrared Frequency
- 3 Enter the **MIU ID** if you select **RF** capture.
- 4 From the drop down list, select the **Unit of Measure**.
- 5 From the drop down list, select the **Meter Size**.
- 6 Click  to activate the device.

Graph

To display the data log in a graph, press  on the Data Log screen and the following screen appears.

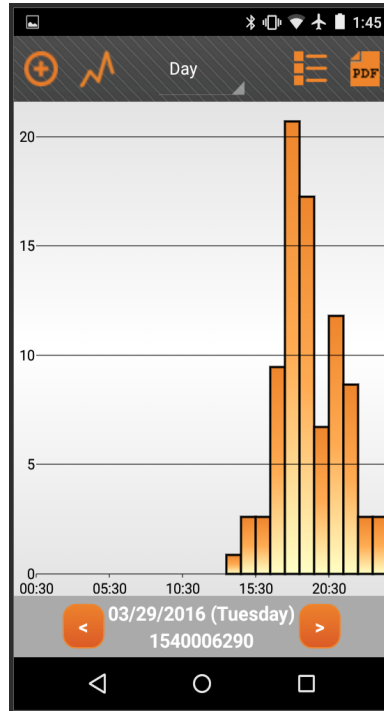


Figure 13 Data Log Graph

Changing the Graph View

To change the data log graph view, complete the following steps.

1. Select **Week** and the following options appear.

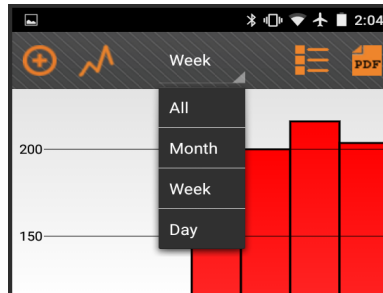



Figure 14 Data Log Options

2. Select All, Month, Week, or Day to view.

Sharing Data Log Information

To send a data log or save it as a PDF file, complete the following steps.

1. Select  from the Data Log screen.

The Share Data Log screen appears as in Figure 15 on page 20.

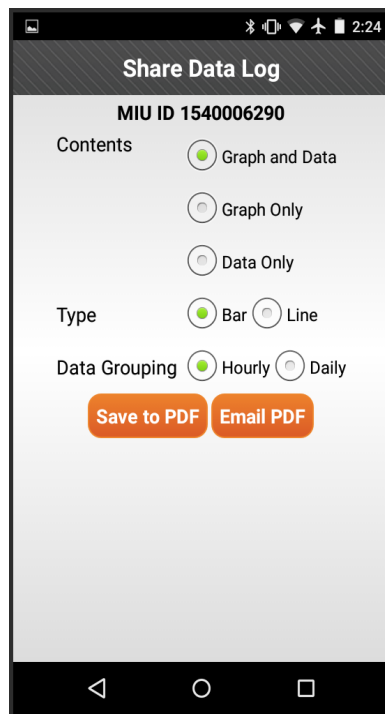





Figure 15 Share Data Log Screen

- 2 Select the **Contents** to share.
 - Graph and data
 - Graph only
 - Data only
- 3 Select the **Type** of graph.
 - Bar
 - Line

- 4 Select one of the following for the **Data Grouping** to share.
 - Hourly
 - Daily
- 5 Select  or .

Select UOM and Meter Size

To select a unit of measure (UOM) and meter size, complete the following steps.

- 1 Select  from the Data Log screen.

The Meter Size screen appears as in Figure 16.

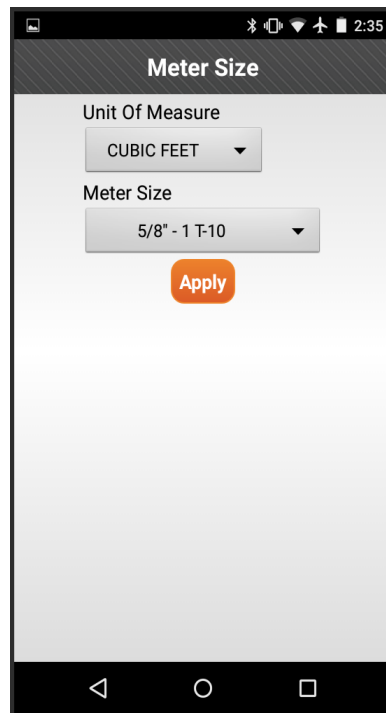



Figure 16 Meter Size

2. Select a unit of measure in the **Unit of Measure** field.
3. Select a meter size in the **Meter Size** field.
4. Press  .

Viewing Data Log Information

You can view the information you capture using data log in various formats.

Viewing a Data Log in List View

After you retrieve a data log, the main data log screen appears as illustrated in Figure 17 on page 23. This screen provides a list view of the data log, with each row showing the date, reading, and consumption interval.

If you notice a flag symbol on a row, at any time, select the row to expand it and display the flag event detail. In order to view a specific date, either scroll through the list or select the date icon located at the bottom right of the screen as shown in Figure 17 on page 23.

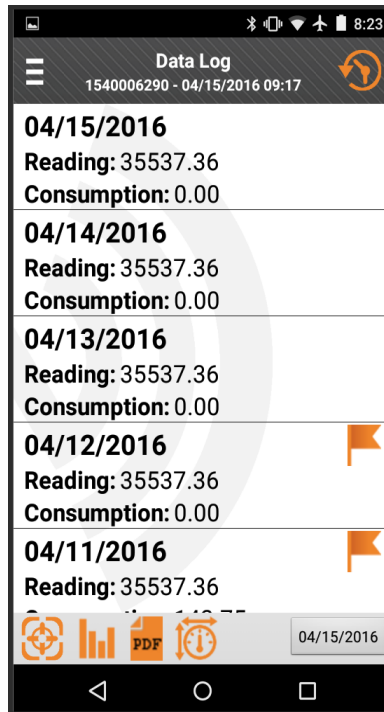



Figure 17 Data Log List View

Viewing a Past Data Log Session

To view a previously retrieved data log, please complete the following steps.

- 1 Press  in the top right of the Data Log screen.

The Manage Data Log Sessions screen appears as in Figure 18.

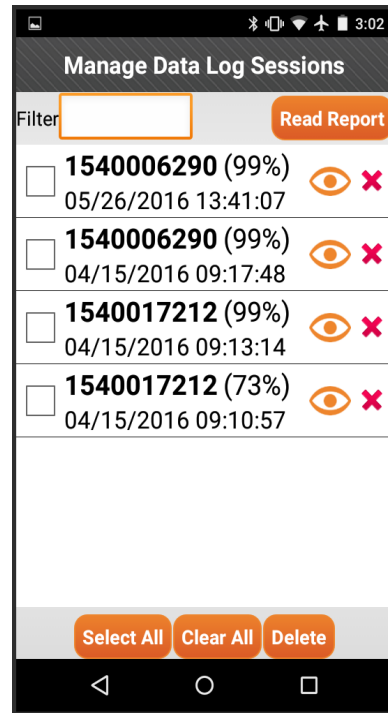


Figure 18 Manage Data Log Sessions Screen

From this screen you can do the following.

- **Select All** logs displayed on the screen.
- **Clear All** logs that were selected.
- **Delete** logs selected.
- allows you to view one particular log.

2 Select the data log session to view.



If there are multiple sessions, use the filter to narrow your results.

- 3 Select **Read Report** and the following screen displays.

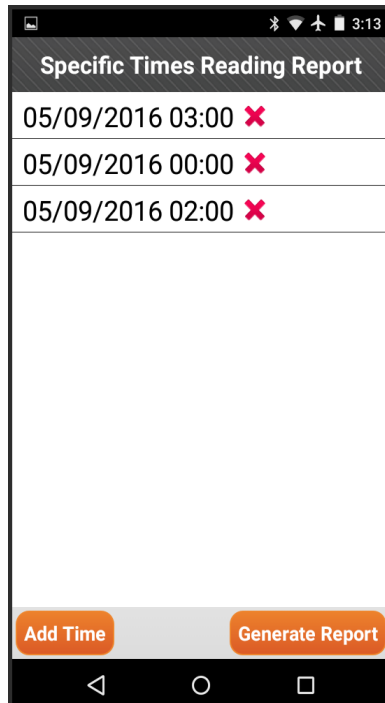


Figure 19 Specific Times Reading Report

From this screen you can do the following.

- **Add Time** - add current date to the report.
- **Generate Report** - generate a report with the selected readings.

- 4 Generate the report by pressing **Generate Report**. The following screen appears.

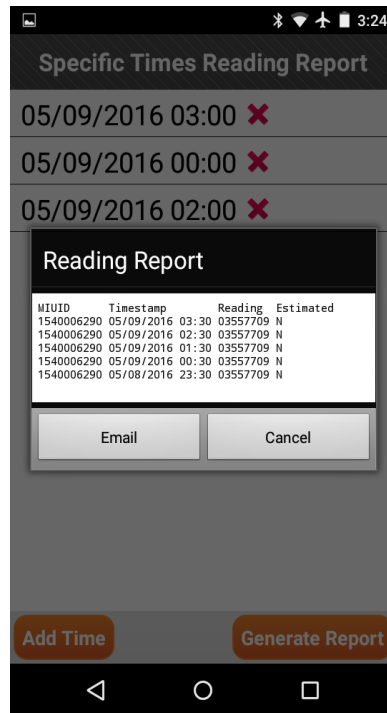


Figure 20 Reading Report

- 5 Press **Email** to send the report.
- 6 Follow your device's e-mail procedures.

Chapter 4 Off Cycle Reads

Using Off Cycle Reads

NGO facilitates the retrieval of off cycle reads which can be used for move in/move out readings and for other unique requests for a specific day's reading.

To use off cycle, complete the following steps.

- 1 From the main menu screen of the app, select **Off Cycle**.

The **Off Cycle** screen appears as shown in Figure 21.

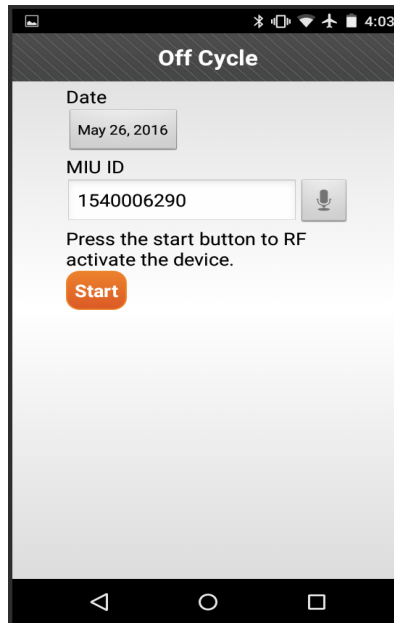



Figure 21 Off Cycle Screen

- 2 Press  to activate the RF device.







Be sure to activate the data logging device.

The off cycle list is displayed. See Figure 22.




Figure 22 Off Cycle List

A  appears on the right side of a row to indicate there is at least one flag for the MIU. When viewing the flag detail information, you can choose to display only one row or you can press  to expand all rows. The specific flag information displays in red.

- 3 From the main off cycle screen, select one of the following options.
 -  - Allows you to connect to a belt clip. See “Connect” on page 16.
 -  - Shares data. See Sharing Off Cycle Information below.

Sharing Off Cycle Information

To share an off cycle log or save it as a PDF file, complete the following steps.

- 1 Select  on the Off Cycle screen.

The Share Off Cycle screen appears as in Figure 23.

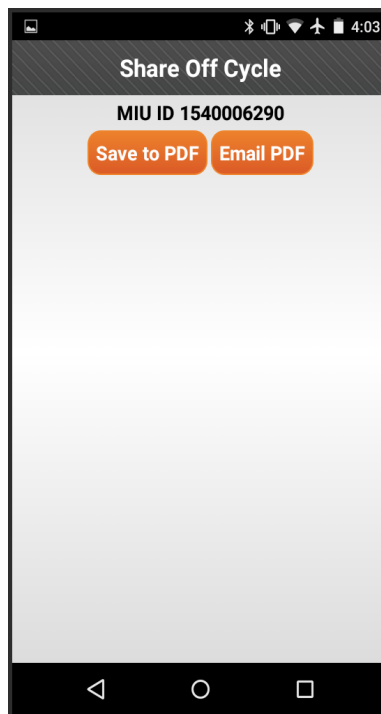


Figure 23 Off Cycle Share

2 Select one of the following options.

- **Save to PDF**
- **Email PDF**

If you selected **Email PDF**, the following dialog appears.



Figure 24 Off Cycle Email PDF

If you selected **Save to PDF**, the following dialog appears.

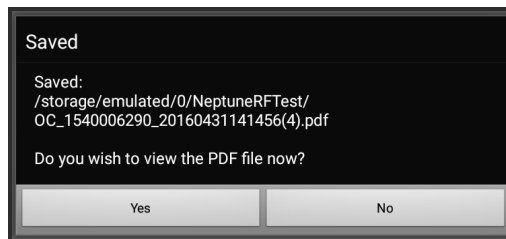


Figure 25 Off Cycle Save to PDF

3 Select one of the following options.

- **Yes**
- **No**

Sharing options appears at the bottom of the screen. See Figure 26 on page 31.

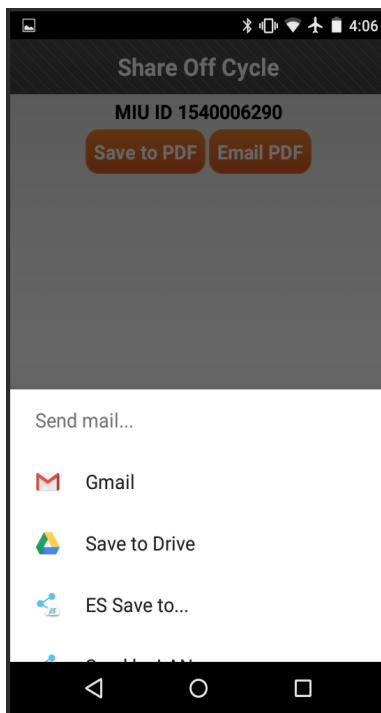


Figure 26 Off Cycle Sharing Options

4. Select the option to use for sharing the information.
5. If viewing the PDF was selected, a report similar to the following sample report appears. See Figure 27 on page 32.

OC_154000...

Off Cycle Report ML#J: 154000200 for 02/21/2016 - 02/26/2016

Reading Time	Reading	Seawater Flow	Leak
02/21/2016 14:31	02/21/16		
02/22/2016 14:31	02/21/16		
02/23/2016 14:31	02/21/16		
02/24/2016 14:31	02/21/16		
02/25/2016 14:31	02/21/16		
02/26/2016 14:31	02/21/16		
02/27/2016 14:31	02/21/16		
02/28/2016 14:31	02/21/16		
02/29/2016 14:31	02/21/16		
03/01/2016 14:31	02/21/16		
03/02/2016 14:31	02/21/16		
03/03/2016 14:31	02/21/16		
03/04/2016 14:31	02/21/16		
03/05/2016 14:31	02/21/16		
03/06/2016 14:31	02/21/16		
03/07/2016 14:31	02/21/16		
03/08/2016 14:31	02/21/16		
03/09/2016 14:31	02/21/16		
03/10/2016 14:31	02/21/16		
03/11/2016 14:31	02/21/16		
03/12/2016 14:31	02/21/16		
03/13/2016 14:31	02/21/16		
03/14/2016 14:31	02/21/16		
03/15/2016 14:31	02/21/16		
03/16/2016 14:31	02/21/16		
03/17/2016 14:31	02/21/16		
03/18/2016 14:31	02/21/16		
03/19/2016 14:31	02/21/16		
03/20/2016 14:31	02/21/16		
03/21/2016 14:31	02/21/16		
03/22/2016 14:31	02/21/16		
03/23/2016 14:31	02/21/16		
03/24/2016 14:31	02/21/16		
03/25/2016 14:31	02/21/16		
03/26/2016 14:31	02/21/16		
03/27/2016 14:31	02/21/16		
03/28/2016 14:31	02/21/16		
03/29/2016 14:31	02/21/16		
03/30/2016 14:31	02/21/16		
03/31/2016 14:31	02/21/16		
04/01/2016 14:31	03/30/16		Continuous
04/02/2016 14:31	03/30/16		Continuous
04/03/2016 14:31	03/30/16		Continuous
04/04/2016 14:31	03/30/16		Continuous
04/05/2016 14:31	03/30/16		Continuous
04/06/2016 14:31	03/30/16		Continuous
04/07/2016 14:31	03/30/16		Continuous
04/08/2016 14:31	03/30/16		Continuous
04/09/2016 14:31	03/30/16		Continuous
04/10/2016 14:31	03/30/16		Continuous
04/11/2016 14:31	03/30/16		Continuous
04/12/2016 14:31	03/30/16		Continuous
04/13/2016 14:31	03/30/16		Continuous
04/14/2016 14:31	03/30/16		Continuous
04/15/2016 14:31	03/30/16		Continuous
04/16/2016 14:31	03/30/16		Continuous
04/17/2016 14:31	03/30/16		Continuous
04/18/2016 14:31	03/30/16		Continuous
04/19/2016 14:31	03/30/16		Continuous
04/20/2016 14:31	03/30/16		Continuous
04/21/2016 14:31	03/30/16		Continuous
04/22/2016 14:31	03/30/16		Continuous
04/23/2016 14:31	03/30/16		Continuous
04/24/2016 14:31	03/30/16		Continuous
04/25/2016 14:31	03/30/16		Continuous
04/26/2016 14:31	03/30/16		Continuous
04/27/2016 14:31	03/30/16		Continuous
04/28/2016 14:31	03/30/16		Continuous
04/29/2016 14:31	03/30/16		Continuous
04/30/2016 14:31	03/30/16		Continuous

Figure 27 Off Cycle PDF

Chapter 5 Pressure Reading and Pressure Log

Pressure Reading

Pressure reading displays the MIU ID number, the pressure graph, and the high and low limits for the pressure log.

Getting a Pressure Reading

To take a pressure reading, complete the following steps.

- 1 On the NGO main menu, select **Pressure Reading** (see Figure 5 on page 6). The following screen appears.

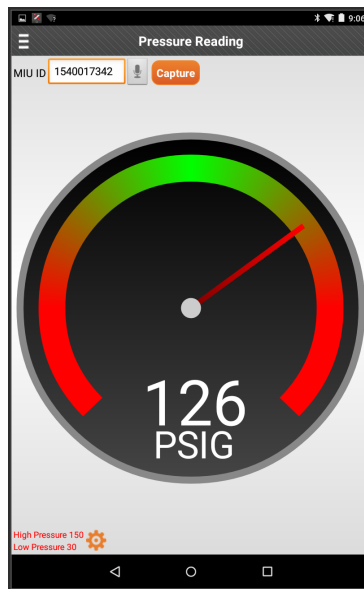






Figure 28 Pressure Reading Screen

The following information displays on this screen.

Table 2 Pressure Reading Screen

Item	Description
MIU ID	Displays the MIU ID. You must enter a v4 MIU ID for the capture. A warning appears if the MIU ID is not valid.
	Obtains the pressure reading. The software waits up to 30 seconds for the pressure reading to be received.
	Displays the pressure at the center of the gauge and a needle indicates the pressure.
High/Low Pressure	Displays the currently set high and low pressure. Pressing the text or the gear icon displays the pressure limits screen.
	Provides a screen to modify the low and high pressure. Default high pressure is 150; default low pressure is 20. <ul style="list-style-type: none"> • The high pressure cannot be less than the low pressure. The low pressure cannot be more than the high pressure. • The high limit is a numeric value only and cannot be greater than 999. • The low limit is a numeric value only and cannot be less than 1.

- 2 Enter a valid MIU ID for the pressure reading.
- 3 Press  to obtain the pressure reading for the MIU.



A warning appears if the MIU ID is not valid.

The software waits up to 30 seconds for the pressure reading to be received. The pressure displays at the center of the gauge and a needle indicates the pressure.

Modifying the High or Low Warning Settings

The pressure limits screen is an alert dialog for modifying the pressure limits. When you press the high/low pressure text or the gear icon on the pressure screen (see Figure 29), a dialog (see Figure 30 on page 36) appears allowing you to modify the high/low pressure warning settings. The reset button sets the pressure limits back to their default values of low=20 and high=150.

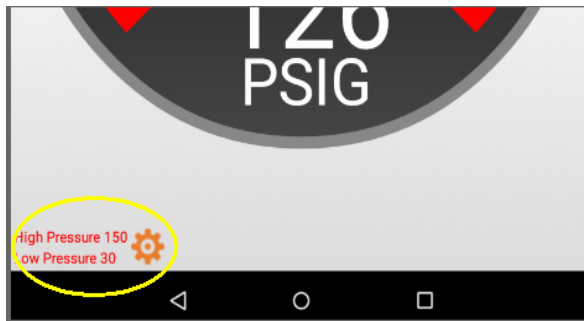



Figure 29 High/Low Pressure Limits

To modify the high or low pressure warning settings, complete the following steps.

- 1 On the Pressure Reading screen, do one of the following.
 - Select the high or low pressure text (see Figure 29).
 - Select  .

The High/Low Pressure Limits dialog appears.

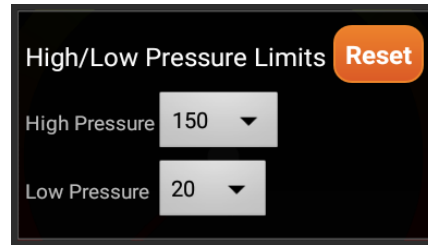



Figure 30 High/Low Limits Dialog

- 2 Use the down arrows to select the pressure limit to use for obtaining pressure readings.
- 3 Click  to restore the pressure limits back to their default values.
 - Low = 20
 - High = 150
- 4 Close this dialog by touching the screen outside of the alert box or by pressing the back button.

Pressure Log

The pressure log displays the pressure data that has been logged to the MIU ID shown in the **MIU ID** field. The pressure log screen displays the following information.

- MIU ID (top of the screen)
- Last date the data was retrieved
- Time data was retrieved (in 24 hour format)
- Dates of the previous 96 days
- High and low limits

To view the **Pressure Log**, go to the NGO main menu and select **Pressure Reading**. See Figure 5 on page 6.

A log of the pressure readings taken for a specified MIU appears. (See Figure 31).

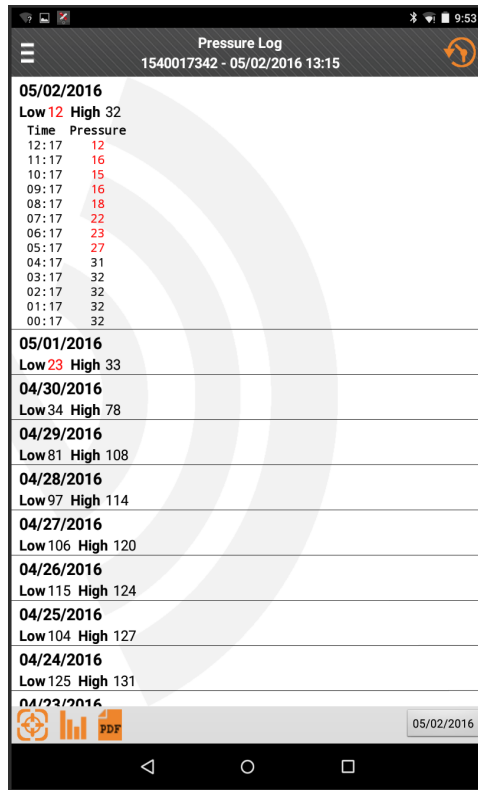


Figure 31 Pressure Log

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