

X90 and X99 Handheld Programmer Operation Guide

Overview

The X90/X99 Handheld Programmer has the ability to communicate to up to 32 devices over a 2-wire daisy-chained RS-485 communications interface. The RJ-11 connector at the bottom (phone style connector) is the primary interface connector. The five-wire phone-style cable carries the 5 volt power, ground, and the two RS-485 communications wire. Software in the handheld and the communications protocol is specific to Ronan gages.

The top four buttons on the keypad are defined by the bottom line of the 4-line LCD display. The bottom-most single button is used to initially power up the unit (when connected to a device) and to exit the communications mode when connected to a device.

The handheld device has enough Flash memory to store the variables of up to 32 Ronan gages. This memory is non-volatile and does not require battery backup or continuous power to maintain its contents.

Startup

When connected to a Ronan gage, pressing the MODE (bottom-most) key will power up the handheld. The first screen displays the software revision level. The second screen will display automatically in a couple of seconds signifying the amount of free memory in the handheld.

The third screen is the Primary Handheld Menu screen. This is the startup screen.

- Programmer Menu - Scan for Devices
OK Off Next Prev

The bottom line defines the four menu keys.

The OK key will scan the RS-485 communications link for attached devices.

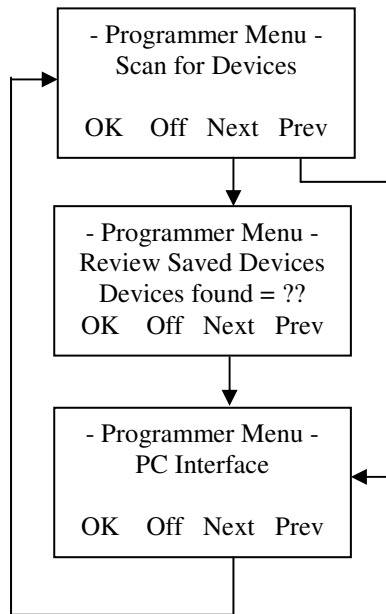
The OFF key will turn power off.

The NEXT key will go to the next menu.

The PREV key will go to the previous menu.

Handheld Operation

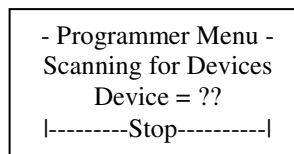
The following flow chart will help define the menu system available in the handheld.



Only three menus are available to you at this point. The first screen allows you to ‘scan’ the RS-485 network and identify attached devices. This is the first step when setting up or changing a gage’s variables.

The Review Saved Devices menu allows you to view the gage ID of gages who have their variables saved in the handheld. This feature permits downloading the saved variables to another gage in the event the gage needs to be replaced.

To attach to a gage, you press the OK key at the first menu. The screen will look similar to this:



During this time, the handheld is polling each possible address (1 – 32) for a connected device. At the termination of this polling process, the handheld screen will display the number of devices found. If no devices are found, the handheld will continue polling until you press any of the four keys to cause it to stop polling, and will display ‘No devices Found’. In this case, if you are connected to a Ronan gage, make sure the gage is powered up and functional. Also ensure that the gage’s address is properly set in the switches.

The screen will display the number of gages it found. Press the OK key to continue.

If the polling process finds more than 1 gage, you can then select the device you wish to attach to by pressing the Next/Previous key until the one you wish is displayed.

```
- Programmer Menu -  
Device #02 01 of 01  
MoldLevl aaaaaaaa  
OK Off Next Prev
```

The above screen displays the gage's address (Device #02, in this case). The third line also displays the gage type and the gage ID. The gage ID is a user-definable value stored in the gage and editable through the handheld. When you press the OK key on this screen, you are selecting the displayed gage as the one you wish to monitor and the following menu will appear:

```
- Programmer Menu -  
Connect to device  
MoldLevl aaaaaaaa  
OK Off Next Prev
```

At this point, you can press the OK key to connect to the displayed gage, or press the NEXT or PREV key for other menu choices. When you scroll through the menu choices, you will notice that two other menu choices have appeared:

```
- Programmer Menu -  
Save Variables  
MoldLevl aaaaaaaa  
OK Off Next Prev
```

```
- Programmer Menu -  
Restore Variables  
MoldLevl aaaaaaaa  
OK Off Next Prev
```

These menus permit you to save the variables from the selected gage into the handheld's memory, or restore the gage's variables from the handheld's memory. These menus only appear if you have selected a gage.

When at the 'Connect to Device' screen, you can press the OK key to connect to the gage and communications with the selected gage will begin. While connected to the gage, the screens you see are coming from the gage itself. During this time, the handheld is strictly a display device for the gage. You will also notice that the two LED's at the bottom of the handheld are blinking. This is an indication that communications is taking place with the selected gage.

While connected to a gage (and the communications LED's are blinking), the four upper keys are defined by the gage's menus. To get back into handheld mode (where the above-defined menus reside), press the bottom 'MODE' key. The real-time display from the gage ceases and the following handheld menu appears:

```
- Programmer Menu -  
  Connect to device  
  MoldLevl aaaaaaaa  
OK  Off  Next  Prev
```

Pressing the OK key here gets you back to the gage's display. Pressing the NEXT or PREV key will scroll you through the handheld's menus as before. If you wish to power down the handheld, press the Off key.