

ROC Keypad Display Program User Manual (for ROC800-Series Remote Operations Controllers)



System Training

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ROC Keypad Display Program User Manual (for ROC800-Series)

D301273X012

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Chapter 1. Introduction

This chapter describes the structure of this manual and presents an overview of the ROC Keypad Display and the user program for the ROC800-Series Remote Operations Controller.

1.1 Scope and Organization

This document serves as the user manual for the ROC Keypad Display and program, which is intended for use in a ROC800-Series Remote Operations Controller (“ROC800”). This manual describes how to install the ROC Keypad Display (“the keypad display”) and how to download, install, and configure the ROC KeypadDisplay program (“the program” throughout the rest of this manual). You access and configure this program using ROCLINK™ 800 Configuration Software (version 2.71 or greater) loaded on a personal computer (PC) running Microsoft® Windows® 7 (32-bit and 64-bit), Windows 8 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit), or Windows Server 2012.

The chapters in this manual provide information in a sequence appropriate for first-time users. Once you become familiar with the procedures and the software, the manual becomes a reference tool. This manual has the following major chapters:

- *Chapter 1 – Introduction*
- *Chapter 2 – Installation*
- *Chapter 3 – Configuration*
- *Chapter 4 – Reference*
- *Chapter 5 – ROC Keypad Display Pattern*

This manual assumes that you are familiar with the ROC800s and its configuration. For more information, refer to the following manuals:

- *ROC800-Series Remote Operations Controller Instruction Manual* (Part D301217X012)
- *ROCLINK™ 800 Configuration Software User Manual (for ROC800-Series)* (Part D301250X012)

1.2 Hardware Overview

The ROC keypad display has two liquid crystal display (LCD) screens, two light-emitting diodes (LEDs), and 25 keypad buttons (see *Figure 1-1*).

Figure 1-1. ROC Keypad Display



You can configure the LCD screen to display either black letters on a white background or white letters on a black background. The LEDs display in two colors to denote alarm or function status of the keypad. Refer to [Section 2.1](#) for instructions on installing the keypad display and to the product data sheet [ROC Keypad Display \(ROC800-Series\)](#), (D301230X012) for device specifications. See [Section 4.1](#) for instructions on using the keypad.

Note

The keypad display is designed either for panel or enclosure mounting. See [Section 2.1](#) for installation instructions.

1.3 Product Overview

The ROC KeypadDisplay program is designed as an interface between ROC800-Series Remote Operations Controllers (ROCs) and the ROC keypad display. The program manages the writing of information to the display and reads and decodes the keystrokes which control the information displayed.

1.4 Program Requirements

The ROC KeypadDisplay program is compatible with version 3.90 (or greater) of the ROC800 firmware and with version 2.71 (or greater) of the ROCLINK 800 software. Program specifics include:

File Name	Target Unit/ Version	User Defined Point (UDP)	Flash Used (in bytes)	SRAM Used (in bytes)	DRAM Used (in bytes)	ROCLINK 800 Version
KeypadDisplay.tar	ROC800 3.90	236	137,932	8	380,928	2.71

For information on viewing the memory allocation of user programs, refer to the *ROCLINK™ 800 Configuration Software User Manual (for ROC800-Series)* (Part D301250X012).

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Chapter 2. Installation

This section provides instructions for installing the physical ROC keypad display and the program into the ROC800.

You must install the keypad display **before** you install the program. Read [Section 1.4](#) of this manual for program requirements.

2.1 Installing the Keypad Display

Note

The keypad display is designed for panel or enclosure mounting.

The keypad display enables you to access ROC800 process and operational information and view and change ROC800 parameters. When powered, the keypad display shows ROC800 values in real time. Using the 25 multi-function keys, you can browse through lists and screens, type text, and enter numeric value. Any changes you make using the keypad display take immediate effect in the ROC800. See [Table 4-2](#) in [Section 4.1](#) for a list of actions for each keypad display button.

The ROC800 uses any EIA-232 (RS-232) port to communicate with the keypad display. The keypad display requires 10 to 30 Vdc and can be powered either by the ROC800's power module or an external power source.

You need the following tools to install, remove, or wire a keypad display:

- Phillips screwdriver, size 2.
- Flat blade screwdriver, size 2.5 mm (0.10 inch).
- Electric screwdriver, tip size 2 (can be portable battery-driven style).
- Drill with 5.5 mm (0.219) inch drill bit.
- 1¼ inch knockout punch.
- Wrench to accommodate #8 hex nuts.

2.1.1 Mounting the Keypad Display

Review the following guidelines for mounting the keypad display:

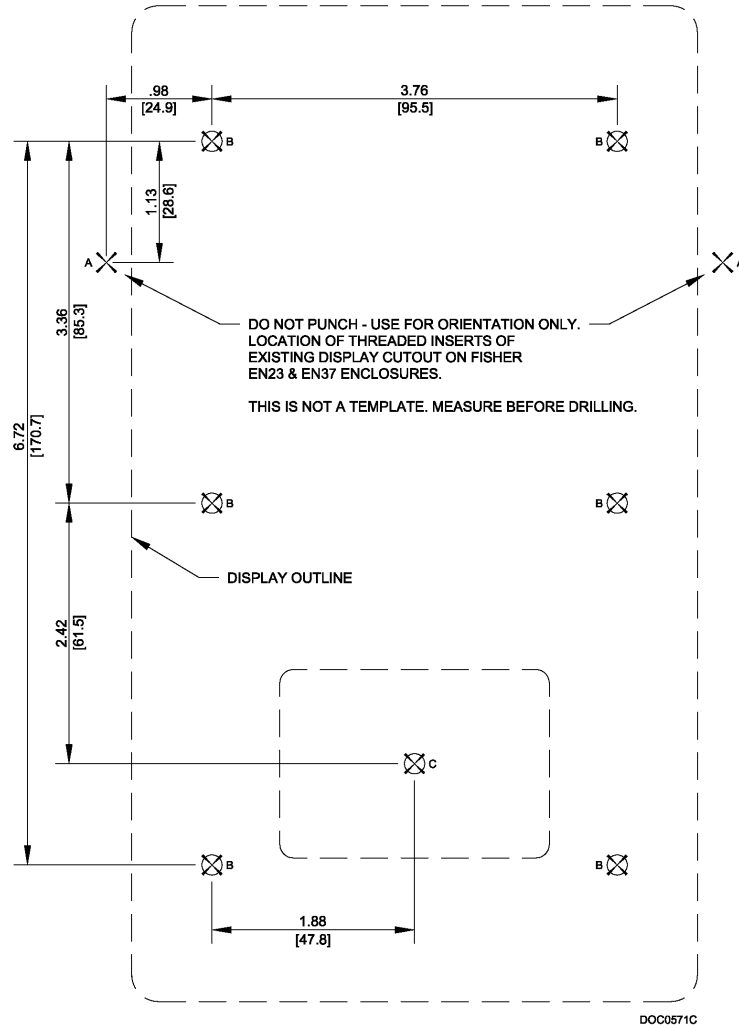
- **Enclosure Mounting**
 - If you intend to mount the keypad display in a ROC800-Series **enclosure** (Models EN23 or EN37 or other Type 4 enclosure), you must use the gasket attached to the back of the keypad display.

- Review steps 1 through 6 to appropriately prepare the enclosure before mounting the keypad display.
- **Panel Mounting**
 - If you intend to **panel-mount** the keypad display, you can remove the gasket attached to the back of the keypad display.
 - If the panel has **not been pre-cut**, follow steps 1 through 9. If the panel has **been pre-cut**, follow steps 7 through 9.

Note

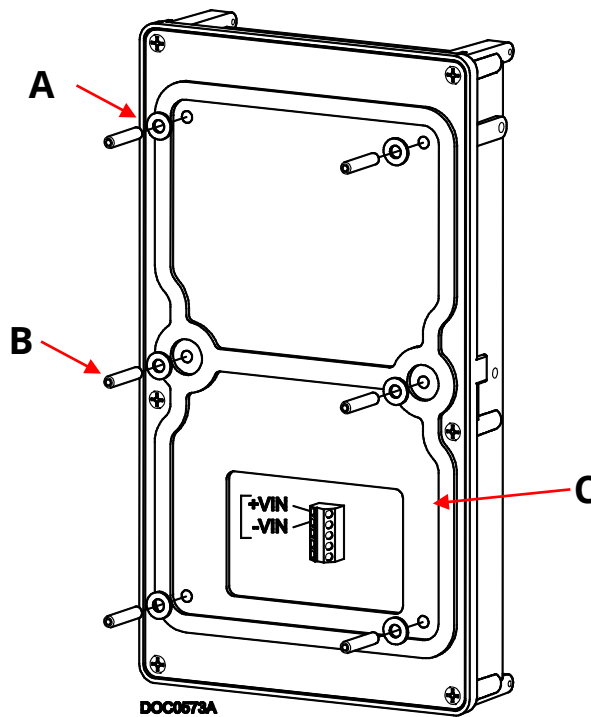
Use *Figure 5-1, Enclosure Mounting Hole Pattern* in *Chapter 5*. as the **pattern** for Step 1. Note that this graphic is **not to scale**. Use the **measurements** in the graphic to correctly place the keypad.

Figure 2-1. Keypad Display Installation Template (NOT TO SCALE)



1. Copy *Figure 2-1* to a sheet of paper that you can discard when finished. Reduce or enlarge the drawing until *Figure 2-1* is to scale.
2. Attach the sheet of paper with *Figure 2-1* correctly sized to the enclosure. Position the paper so that the line marked **3.76 [95.5]** is towards the top of the enclosure. If you are installing on an EN23 or EN37 enclosure door, align the two locations marked **A** with the threaded inserts on either side of the existing display cutout.
3. Center-punch at the locations marked **B** and **C** (a total of seven punches).
4. Remove the sheet of paper with *Figure 2-1* and drill 5.6 mm (0.219 inch) diameter holes at six locations marked **B**.
5. Punch a 44 mm (1.25 inch) diameter knockout hole at the location marked **C**.
6. Deburr all edges and apply a touch-up coating of paint (not provided) to raw edges of the enclosure or panel for corrosion protection.
7. Install washers and set screws (provided) on the backplate of the keypad display (refer to *Figure 2-2*).

Figure 2-2. Backplate of Keypad Display

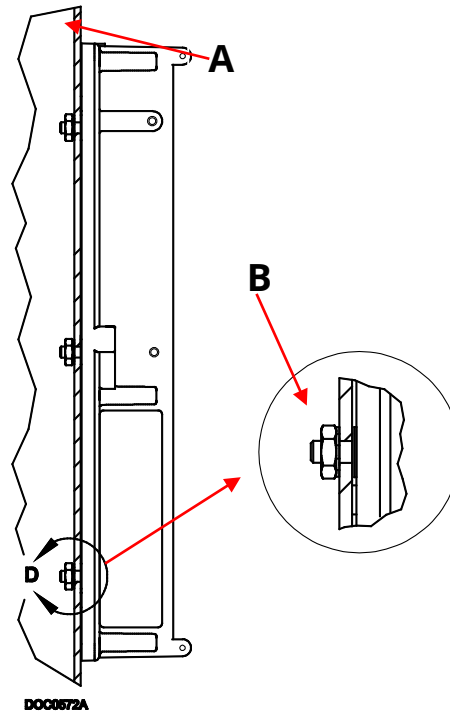


- A** Washer
- B** Set Screw
- C** Gasket

8. Place six set screws through the six drilled holes in the enclosure or panel. Press the keypad display against the enclosure or panel.

9. Attach the keypad display to enclosure or panel with supplied 8-32 hex nuts (refer to *Figure 2-3*).

Figure 2-3. Side View of Installed Keypad Display



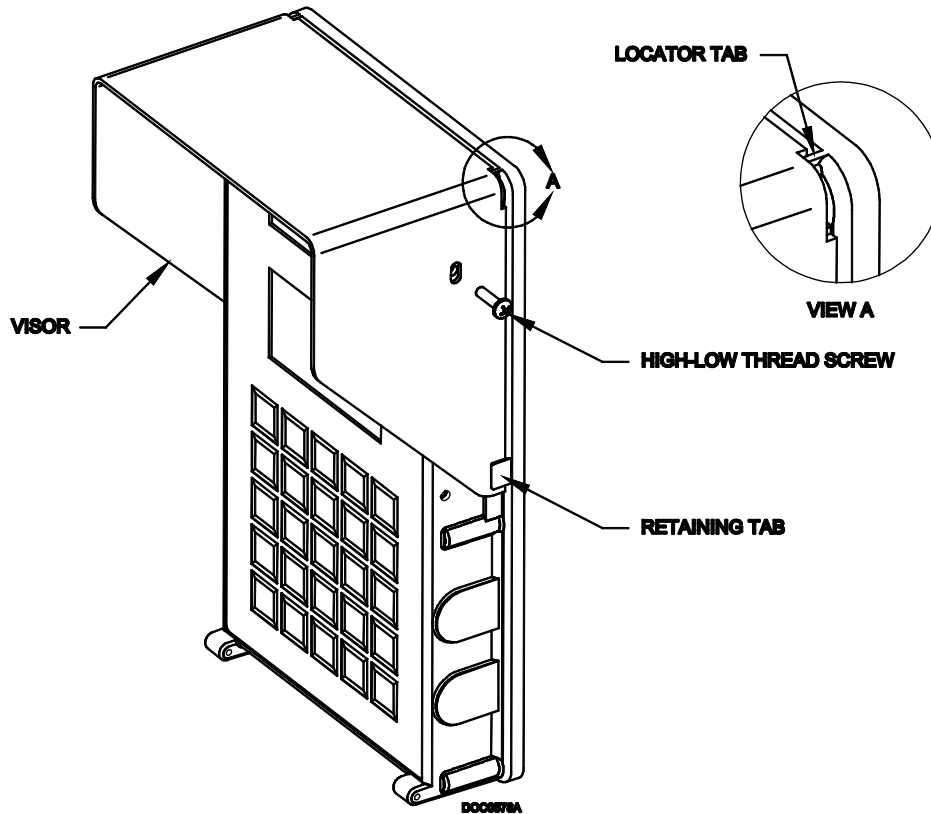
- A** Wall of enclosure
- B** Hex nut

This completes the installation of the keypad display on a panel or enclosure. Proceed to [Section 2.1.2](#) if you need to install a visor on the keypad display **or** to [Section 2.1.3](#) to wire the keypad display.

2.1.2 Installing the Visor

The visor shades the display so you can see it easily in direct sunlight (see [Figure 2-4](#)). Typically, the visor is factory-installed unless you order it later as a kit. If you order a visor kit, a *Keypad Display Visor Installation Sheet* accompanies the kit.

Figure 2-4. Keypad Display with Installed Visor



1. Place the visor onto the upper portion of the keypad display. Refer to *Figure 2-4* to ensure that the visor fits **into** the retaining tabs.
2. Insert a small screw (provided) into the hole on the visor and hole in one side of the keypad display housing.
3. For a first-time installation, use an electric screwdriver with a size 2 Phillips bit to drive the screw into place. Do not over tighten.
4. Repeat steps 2 and 3 for the hole on the other side of the visor.

Note

If you are **reinstalling** the visor, use a manual (not electric) size 2 Phillips screwdriver to prevent stripping the screw's threads. You may need to initially reverse the direction of the screw to engage it fully.

To remove the visor, simply unscrew each side of the visor. Keep the screws; the holes in the sides of the keypad display require this type of fastener.

2.1.3 Wiring the Keypad Display for Power

Use the termination block accessible through the cutout on the back of the keypad display (see [Figure 2-2](#)) to connect wiring for the power and EIA-232 (RS-232) communications. [Table 2-1](#) shows the power and communications terminations. The terminals accept wires 16 AWG or smaller. Bare at least 5 mm (0.2-inch). Tighten the terminals to 0.22 N-m (1.95 in-lb).

Table 2-1. Keypad Display Terminations for Power

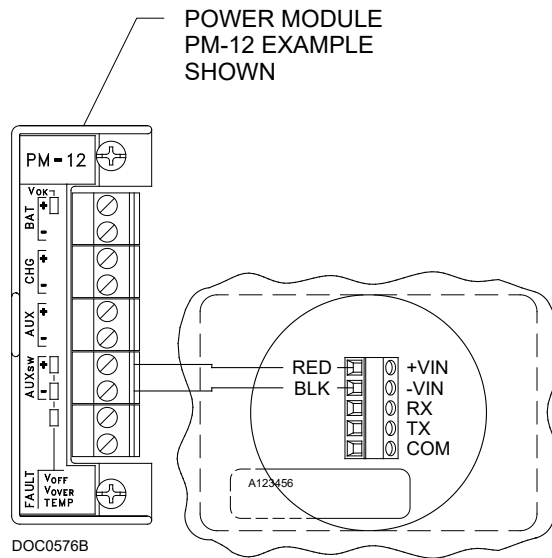
Terminal	Description
+VIN	Input Power
-VIN	Input Power
RX	RS-232 Receive
TX	RS-232 Transmit
COM	RS-232 Common

The +VIN and -VIN power terminations on the keypad display connect either to an external power supply delivering 12 Volts dc or to a ROC800-Series Power Input module (delivering either 12 Volts dc [for the PM-12] or 30 Volts dc [for the PM-30]).

- **Wiring to a 12 Volt DC Power Input Module**

If you connect the keypad display to a 12 Volt dc Power Input module (PM-12), use the AUXSW+ and AUXSW- terminals to deliver 12 Volts dc to the keypad display. Connect the AUXSW+ termination to the +VIN termination of the keypad display and the AUXSW- termination to the -VIN (Input Power -) termination of the keypad display. You can use the AUX+ and AUX- terminations, but the AUXSW terminations allow the ROC800 to switch off the keypad display in power-loss situations. Refer to [Figure 2-5](#).

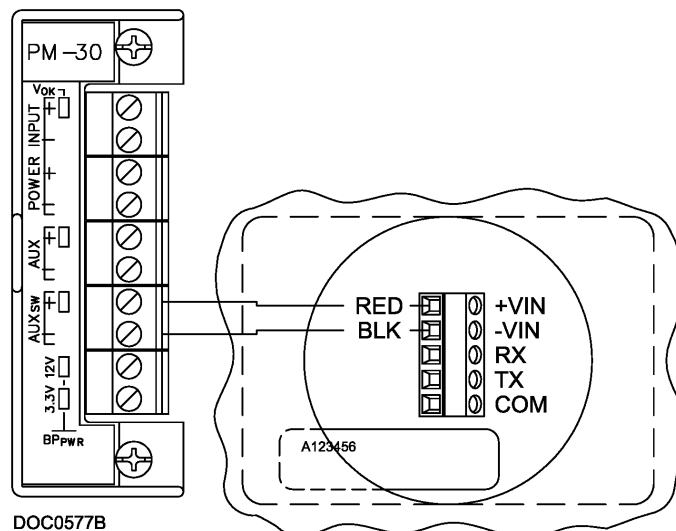
Figure 2-5. Wiring for 12 Vdc Power Input Module



- **Wiring to a 30 Volt DC Power Input Module**

If you connect the keypad display to a 30 volts dc Power Input module (PM-30), use the AUXSW+ and AUXSW- terminals to deliver 12 Volts dc to the keypad display. Connect the AUXSW+ termination to the +VIN termination of the keypad display and the AUXSW- termination to the -VIN (Input Power -) termination of the keypad display. Refer to *Figure 2-6*.

Figure 2-6. Wiring for 30 Vdc Power Input Module



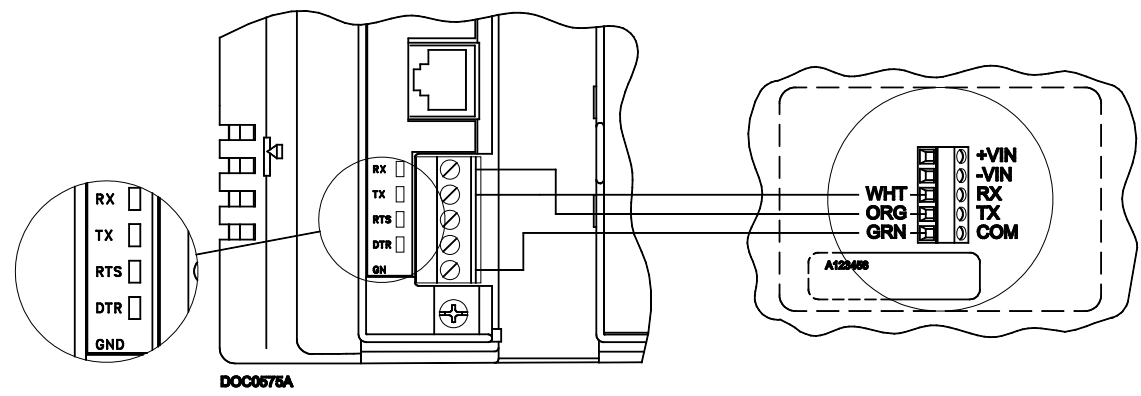
2.1.4 Wiring the Keypad Display for Communications

The TX, RX, and COM terminations on the keypad display connect to the RX, TX, and GND terminations on an EIA-232 (RS-232) communications port on a ROC800. The EIA-232 (RS-232) port can be either the Comm 2 port on the CPU or an optional communications module (Comm 3, Comm 4, or Comm 5). *Table 2-2* shows the EIA-232 connections; *Figure 2-7* shows an example of the communications wiring.

Table 2-2. Keypad Display Terminations for Communications

Terminal	Description
RX	Connect to keypad display TX
TX	Connect to keypad display RX
RTS	N/C
DTR	N/C
GND	Connect to keypad display common

Figure 2-7. Communications Wiring (CPU Comm 2 Port Shown)



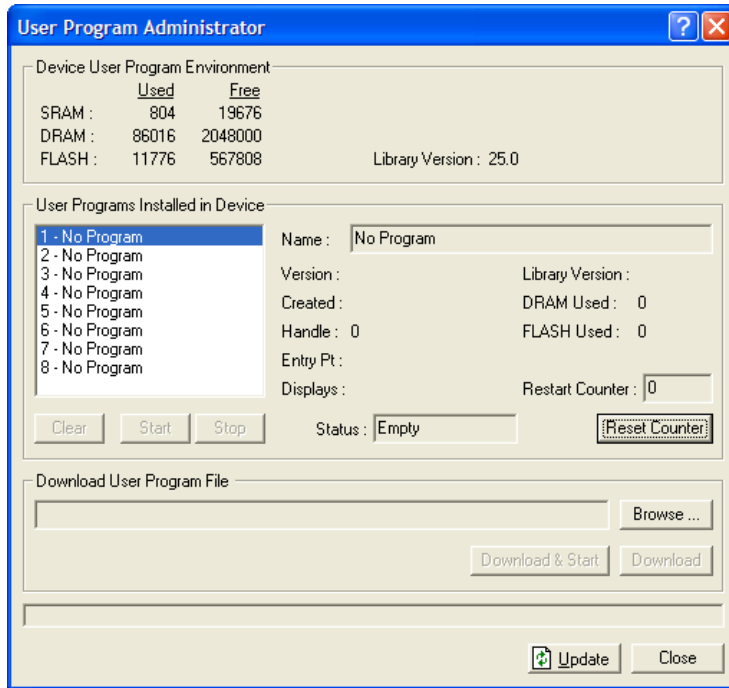
2.2 Downloading the Program

This section provides instructions for installing the KeypadDisplay.tar program file into the flash memory on the ROC800.

To download the program using ROCLINK 800 software:

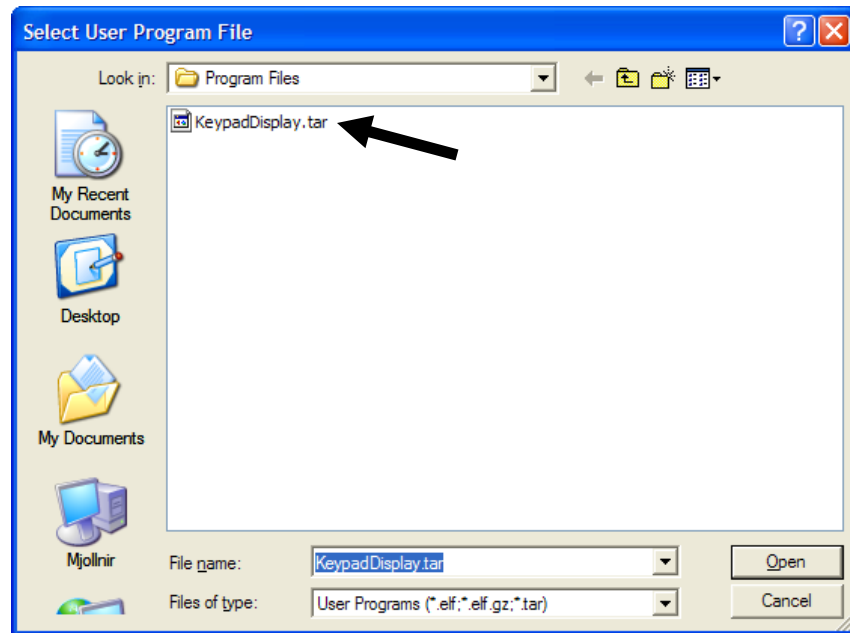
1. Connect the ROC800 to your computer using the LOI port.
2. Start and logon to ROCLINK 800.
3. Select **Utilities > User Program Administrator** from the ROCLINK menu bar. The User Program Administrator screen displays (see *Figure 2-8*):

Figure 2-8. User Program Administrator Screen



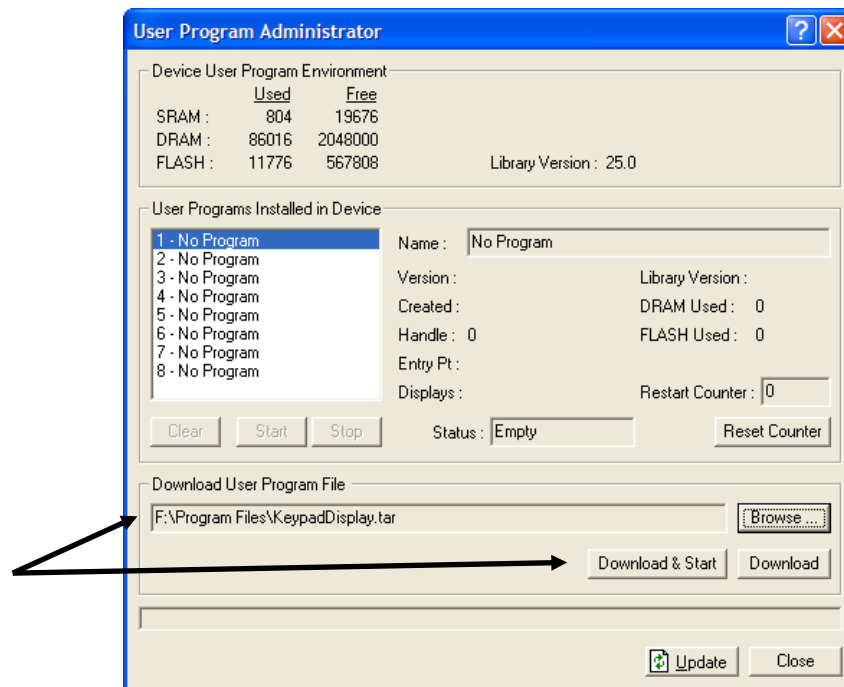
4. Select any empty program number (in this case, number 1) in which to download the program.
5. Click **Browse** in the Download User Program File pane. The Select User Program File screen displays.
6. Select the path and user program file to download from the CD-ROM. (Program files are typically located in the Program Files folder on the CD-ROM). As [Figure 2-9](#) shows, the screen lists all valid programs files with the **.tar** extension:

Figure 2-9. Select User Program File Screen



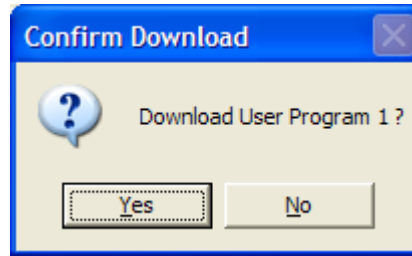
7. Click **Open** to select the program file. The User Program Administrator screen displays. As shown in *Figure 2-10*, note that the Download User Program File frame identifies the selected program and that the **Download & Start** button is active:

Figure 2-10. User Program Administrator Screen



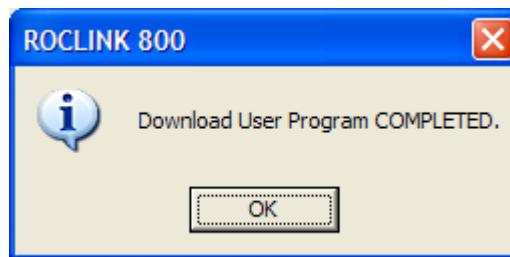
8. Click **Download & Start** to begin loading the selected program. The following message displays:

Figure 2-11. User Program Administrator Screen



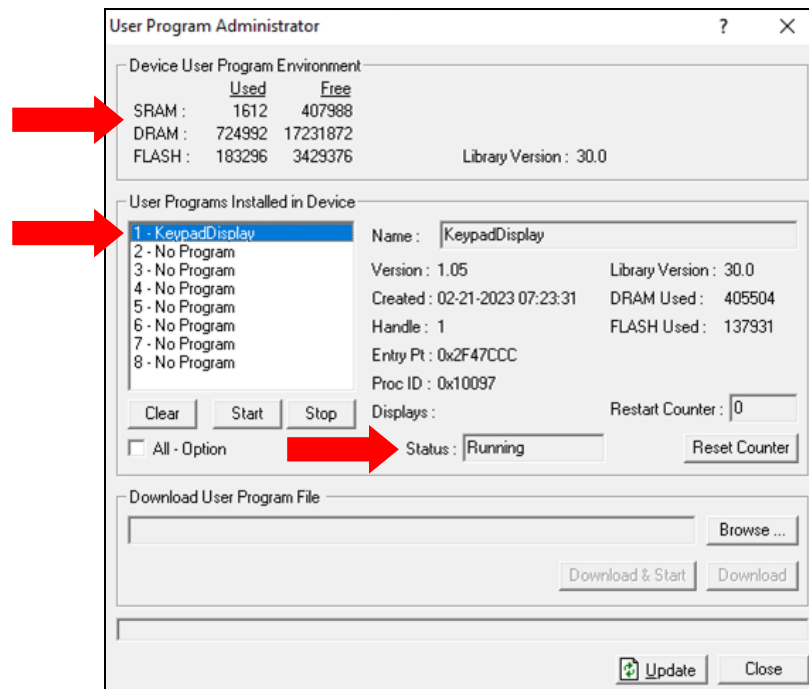
9. Click **Yes** to begin the download. When the download completes, the system displays a notification dialog:

Figure 2-12. ROCLINK 800 Download Confirmation



10. Click **OK**. The User Program Administrator screen displays (see *Figure 2-13*). Note that:
 - The Device User Program Environment pane reflects the use of system memory.
 - The User Programs Installed in Device pane identifies the installed program.
 - The Status field indicates that the program is running.

Figure 2-13. ROCLINK 800 Download Confirmation



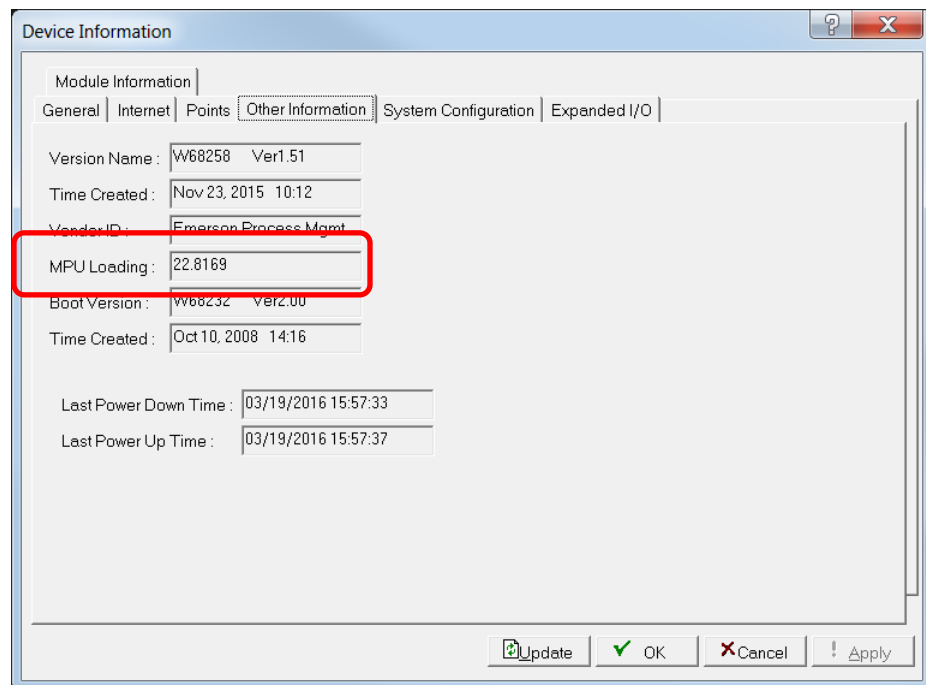
11. Click **Close**. The ROCLINK 800 screen displays and the download is complete. Proceed to *Chapter 3, Configuration*, to configure the program.

2.3 MPU Loading Threshold

To maximize the performance of your ROC800 device, always verify the performance of specific application combinations before using them in the field to ensure the MPU load typically remains **below** 85% with peak MPU loading levels **below** 95%.

To check the current MPU load at any time, select **ROC > Information > Other Information** and review the value in the MPU loading field.

Figure 2-14. MPU Loading Value



Chapter 3. Configuration

Note

Before you begin the process of configuring ROCLINK 800, ensure you have correctly wired the keypad display (see *Sections 2.1.3* and *2.1.4* of this manual) and connected the keypad display to your ROC800.

After you have loaded the KeypadDisplay program on the ROC800, you use two standard ROCLINK 800 screens to configure the program:

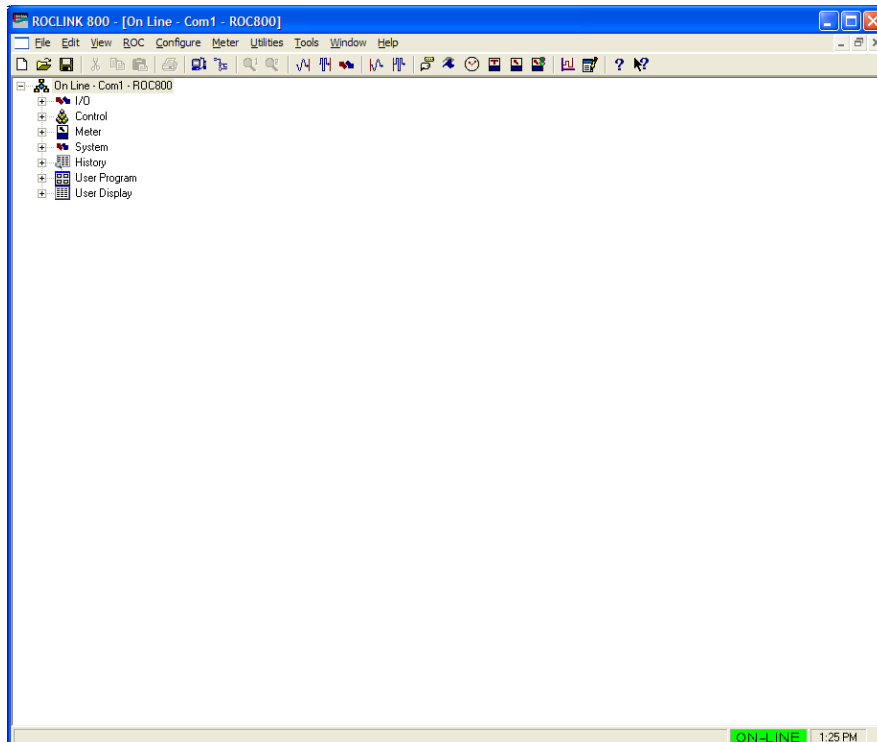
- Use the Keypad Display tab on the Device Information screen (**ROC > Information**) to set general parameters for the keypad display.
- Use the General tab on the Comm Port screen (**ROC > Comm Ports**) to set communication-specific parameters for the keypad display.

Note

After configuring these screens, you should restart your ROC800 using a warm start from the Flags screen (**ROC > Flags > Warm Start**). This ensures that the ROC800 firmware recognizes your modified configuration.

You can access all screens from the main ROCLINK 800 screen.

Figure 3-1. ROCLINK 800

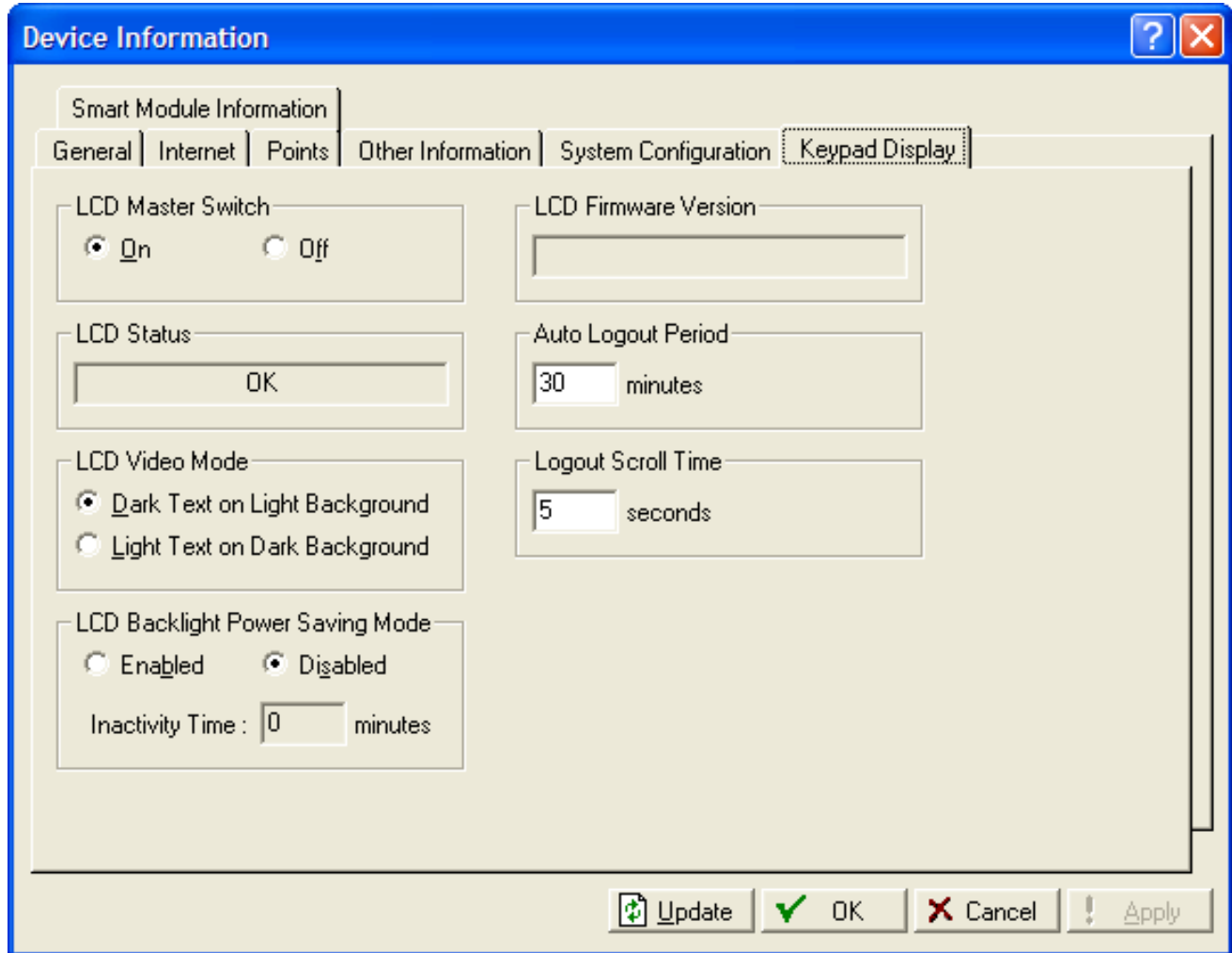


3.1 Device Information Keypad Display Tab

Use this tab to set general parameters for the keypad display. To access this screen:

1. Select **ROC > Information**. The Device Information screen displays, showing the General tab.
2. Select the **Keypad Display** tab. The Keypad Display screen displays.

Figure 3-2. Device Information Keypad Display Tab



3. Review the following fields for your organization's values.

Field	Description
LCD Master Switch	Sets whether the ROC800 runs the KeypadDisplay program. Valid values are On (the KeypadDisplay program is running on the ROC800) or Off (the KeypadDisplay program is stopped). The default is On .
LCD Status	This read-only field shows the operational status of

Field	Description
	the keypad display. If the keypad display is functioning correctly, the field displays OK . If the keypad is not installed or is otherwise not functioning correctly, the field displays LCD Not Installed .
LCD Video Mode	Sets the video scheme for the keypad display. Valid values are Dark Text on Light Background or Light Text on Dark Background . The default is Dark Text .
LCD Backlight Power Saving Mode	<p>Sets a power saving mode for the keypad display. Valid values are Enabled (the backlight turns off after a specified time) or Disabled (the backlight is always on). The default is Disabled.</p> <p>Note: If you select Enabled, you must also complete the Inactivity Time field which indicates, in minutes, how long the backlight remains on.</p>
LCD Firmware Version	This read-only field shows the current version of LCD firmware installed in the ROC800.
Auto Logout Period	Sets, in minutes, how long the keypad display waits before automatically logging off the current user. The default is 30 minutes.
Logout Scroll Time	<p>Sets, in seconds, how frequently the program refreshes the loaded configuration's default "screen saver" program. If the screen saver contains more than 8 lines, this value indicates how frequently the program rotates through the first 8 lines and then moves to the next 8-line display.</p> <p>You define the content of this "screen saver" using the Keypad Display Editor screen (Utilities > Keypad Display Editor). A screen saver can have as many lines as necessary. The display shows 8 lines at a time; this value indicates how long the display shows each 8-line display before the keypad proceeds to the next 8 lines in the defined screen saver.</p>

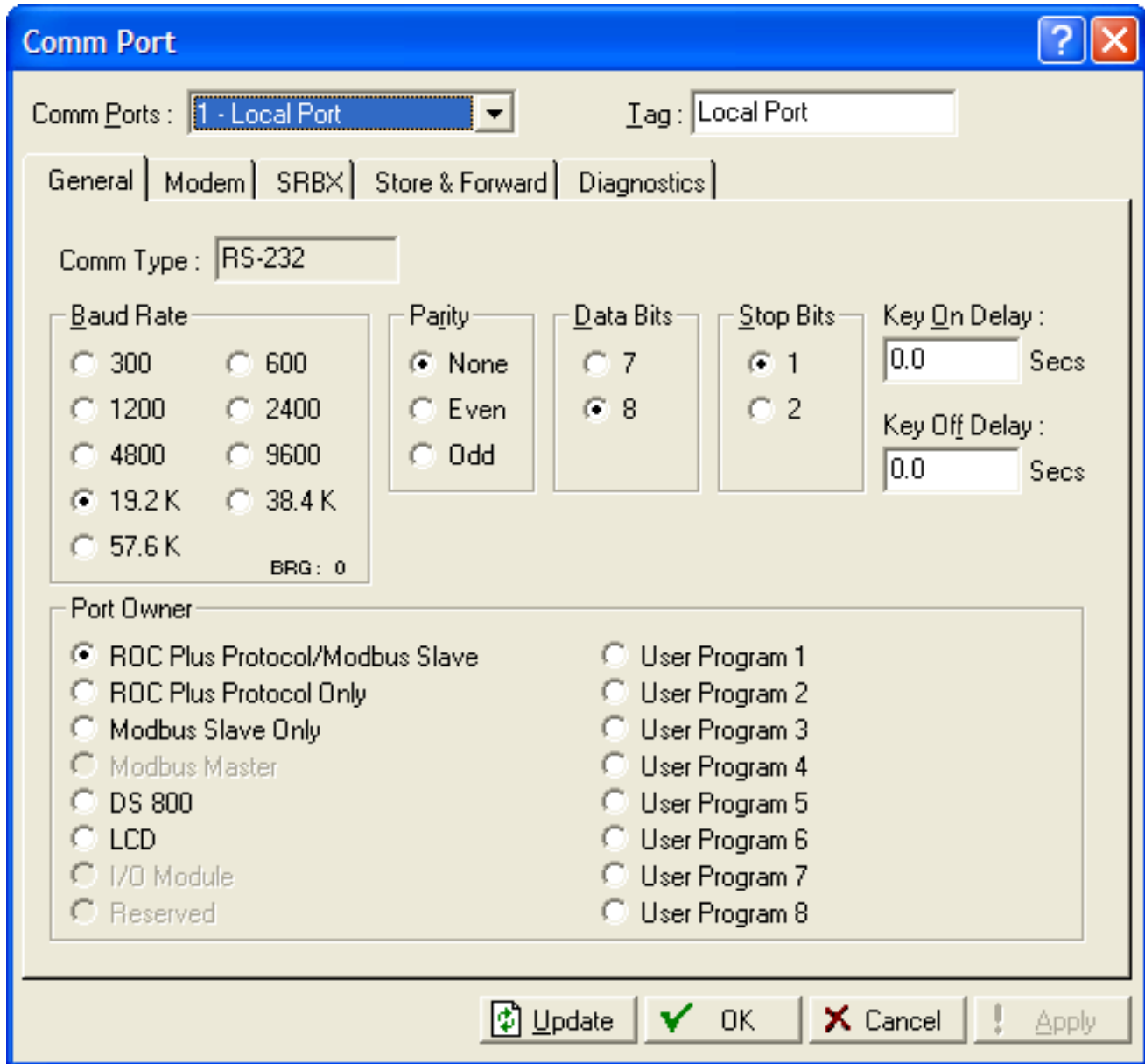
4. Click **Apply** to save your changes.
5. Click **Close** to return to the ROCLINK 800 screen. Proceed to [Section 3.2](#) to configure communications.

3.2 Comm Port General Tab

Use the **General** tab on the Comm Port screen to define communications parameters specific to the keypad display. To access this screen:

1. Select **ROC > Comm Ports**. The Comm Port screen displays.

Figure 3-3. Comm Port General Tab



2. Review the following fields for your organization’s values:

Field	Description
Comm Ports	Sets the communication port associated with the keypad display. Typically this is COMM2, although

Field	Description
	<p>you can set the keypad active on COMM1 or COMM3. Click <input type="checkbox"/> to display all comm ports.</p> <p>Note: You cannot configure the LOI or Local Port for use with the keypad display.</p>
Tag	Sets a 10-character identifier for the comm port. ROCLINK 800 includes this tag as part of the value shows in the Comm Ports field.
Comm Type	This read-only field shows the type of communication protocol associated with the selected comm port.
Baud Rate	Sets a communications rate (baud rate) for the port. The KeypadDisplay program requires 57.6 K .
Parity	Sets the parity parameter for the communications protocol. The KeypadDisplay program requires None .
Data Bits	Sets the data bits parameter for the communications protocol. The KeypadDisplay program requires 8 data bits.
Stop Bits	Sets the stop bits parameter for the communications protocol. The KeypadDisplay program requires 1 stop bits.
Key On Delay	Sets, in seconds, how long ROCLINK 800 waits before sending a signal to the keypad display. Set this value to 0.0 to prevent signal delay.
Key Off Delay	Sets, in seconds, how long ROCLINK 800 waits before turning off the signal to the keypad display. Set this value to 0.0 to prevent signal delay.
Port Owner	<p>Sets the program or device that ROCLINK 800 associates with this comm port. Select LCD for the KeypadDisplay program.</p> <p>Note: Do not select a User Program. The KeypadDisplay program automatically selects a program internally.</p>

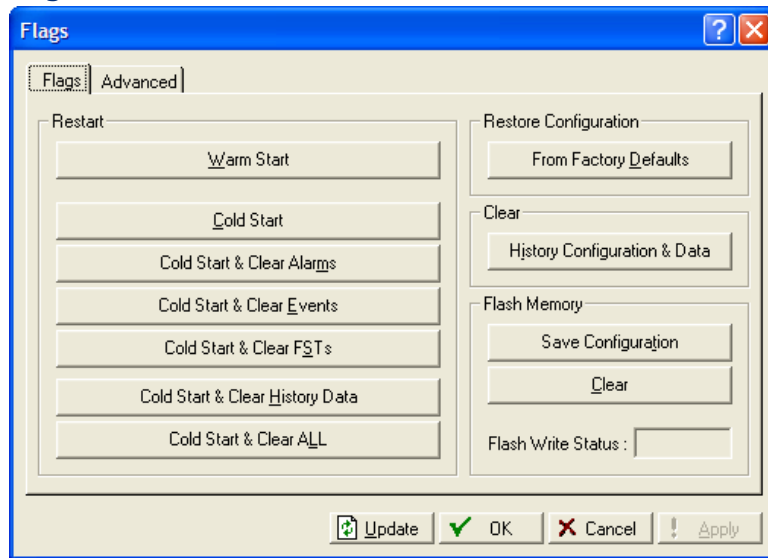
3. Click **Apply** to save your changes.
4. Click Close to return to the ROCLINK 800 screen. Proceed to [Section 3.3](#) to save this configuration.

3.3 Saving the Configuration

Whenever you modify or change the configuration, it is a good practice to save the final configuration to memory. To save the configuration:

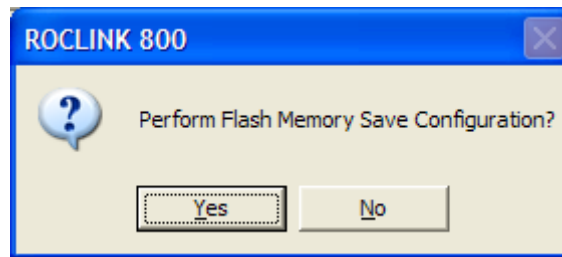
1. Select **ROC > Flags**. The Flags screen displays:

Figure 3-4. Flags Screen



2. Click **Save Configuration**. A verification message displays:

Figure 3-5. Save Verification



3. Click **Yes** to begin the save process. The Flash Write Status field on the Flags screen displays *In Progress*. When the Save Configuration completes, the Flash Write Status field on the Flags screen displays *Completed*.
4. Click **Update** on the Flags screen. This completes the process of saving your new configuration.

Note

For archive purposes, you should also save this configuration to your PC's hard drive or a removable media (such as a flash drive) using the **File > Save Configuration** option on the ROCLINK 800 menu bar.

Chapter 4. Reference

This section provides detailed instructions on operating the keypad display as well as information on point type 236, which the KeypadDisplay program uses.

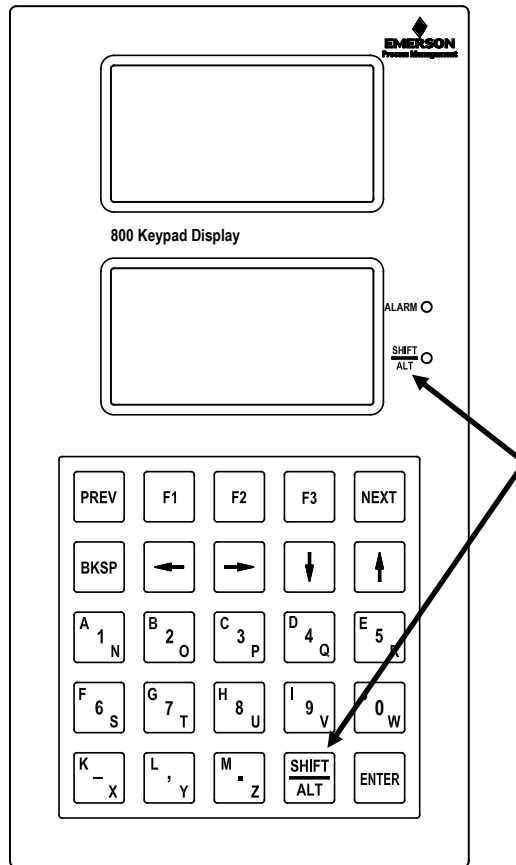
4.1 Operating the Keypad Display

Note

The sample keypad screens in this section are **only** examples. The screens in your environment may change depending on the programs installed in your ROC800s or user security.

After you have activated and configured the keypad display, you use it to access information on the ROC800.

Figure 4-1. Keys on Keypad Display



DDC0720A

Thirteen keys on the keypad (see *Figure 4-1*) have three alphanumeric values. The upper left character is red, the center character is black, and the lower right character is blue.

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Press the **SHIFT/ALT** key (note that the word **SHIFT** is red and the word **ALT** is blue) to access the various values. The SHIFT/ALT LED to the right of the lower display turns different colors and blinks to indicate the current value. *Table 4-1* shows the actions for the LEDs.

Table 4-1 LEDs on Keypad Display

LED Function	Shift/Alt Action	Function Action
Solid Red	Pressed 1 time	Accesses the red character on the pads in upper case
Solid Blue	Pressed 2 times	Accesses the blue character on the pads in upper case
Blinking Red	Pressed 3 times	Accesses the red character on the pads in lower case
Blinking Blue	Pressed 4 times	Accesses the blue character on the pads in lower case
No Light	Not pressed or Shift held down for 1 second or longer	Accesses the black numbers and punctuation

Table 4-2 shows the actions for the non-alphanumeric keys.

Table 4-2 Keys on Keypad Display

Keypad Button	Action
PREV	Returns to previous list of sub-menu options. Note: This key is available only if < displays in the lower left corner of the screen.
F1	Selects the left sub-menu option. If it points to Log#-, pressing F1t decreases the logical number of the point being displayed. If it points to another screen, pressing F1 opens that screen.
F2	Selects the middle sub-menu option. If it points to Log#+, pressing F2 increases the logical number of the point being displayed. If it points to another screen, pressing F2 opens that screen.
F3	Selects the right sub-menu option if one is available. Typically points to another screen that pressing F3 opens.
NEXT	Proceeds to next list of sub-menu choices. Note: This key is available only if > displays on the bottom line of the screen.
BKSP	Moves cursor back one space in Edit mode and deletes the last character.
← (Left Arrow)	Returns display from sub-menu to next higher menu.
→ (Right Arrow)	Takes display to highlighted sub-menu. ENTER has the same action.
↓ (Down Arrow)	Highlights item below the currently highlighted item.

Keypad Button	Action
↑ (Up Arrow)	Highlights item above the currently highlighted item.
SHIFT/ALT	Enters Function mode (see <i>Table 4-1</i>).
ENTER	Takes display to highlighted sub-menu or saves values of pressed keypad buttons.

4.1.1 Logging In with Enhanced Security



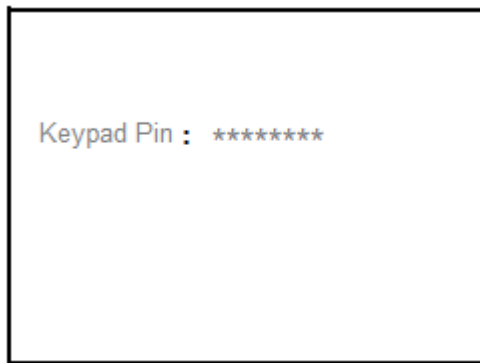
Important

For maximum security, when defining PINs on the ROC Device Security screen, do not implement simplistic PIN combinations (such as 11111111, 00000000, or 12345678) especially for operator IDs with level 5/administrative access. Consult your organization’s IT department to create unique PINs most appropriate for your users.

After you have installed **both** the physical keypad display and the KeypadDisplay user program in the ROC800, you can activate the keypad.

If your organization has implemented the enhanced security features of ROCLINK 800 (present in ROC800 version 3.90 and later and ROCLINK version 2.71 and later), a screen requesting a Keypad PIN (*Figure 4-2*) displays on the lower keypad screen.

Figure 4-2. Keypad Pin Screen



After you enter a valid eight-number PIN, the Main Menu (*Figure 4-4*) displays.



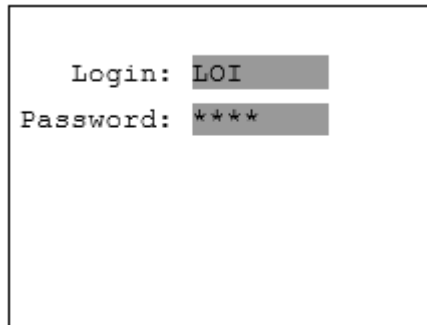
Important

The **Users** tab on ROCLINK 800’s Device Security screen (**ROC > Security**) enables you to define Keypad PINs for each system user. For more information, search for *Enhanced Security* in the ROCLINK 800 online help or refer to *Section 3.7.3.2* in either the *ROCLINK 800 Configuration Software User Manual (for ROC800-Series)* (D301250X012) or the *ROCLINK 800 Configuration Software User Manual (for ROC800L)* (D301246X012).

4.1.2 Logging In Without Enhanced ROCLINK 800 Security

If your organization has **not** implemented the recommended ROCLINK enhanced security, when you activate the Keypad the standard Keypad Login screen displays on the lower screen (see *Figure 4-3*):

Figure 4-3. Login Screen (Defaults shown)



You can enter any valid login ID and password defined on the ROC800 using ROCLINK 800.

⚠ CAUTION

The keypad display **does not** support access levels. Using the keypad display provides , with any valid login ID and password provides access to all ROC800 menus and submenus.

For example, to type LOI (the default ROC800 logon ID), press **SHIFT/ALT** once. The SHIFT/ALT LED next to the lower display turns red, indicating you have access to the red values on the keys. Press the **L** key (bottom row, second from the left). Press **SHIFT/ALT** again, and the SHIFT/ALT LED turns blue, indicating that you have access to the blue values on the keys. Press the **O** key (third row, second from the left). Press **SHIFT/ALT** four times. The SHIFT/ALT LED turns red again, indicating that you have access to the red values on the keys again. Press the **I** key (fourth row, second from right) and then press **ENTER**.

To type **1000** (the default logon password), press **SHIFT/ALT** four times (or hold the SHIFT/ALT key for 1 second). The SHIFT/ALT LED turns off. This gives you access to the black (numeric) values on the keys. Press **1000** and **ENTER** to complete the logon sequence.

Refer to *Table 4-1* for the relationship between the LED colors and patterns and pressing **SHIFT/ALT**.

4.1.3 Accessing the Main Menu and Other Menus

After you complete the login, the keypad display's main menu displays (see *Figure 4-4*).

Figure 4-4. Main Menu

```

1 IO
2 Control
3 Meter
4 System
5 Events
6 Alarms
7 IO Calibration
8 Logout
    
```

To select an option, use the **↑** and **↓** keys on the keypad to highlight an option and press **ENTER**. For example, if you select **Meter**, the following screen sequence (*Figures 4-5 through 4-7*) could display:

Figure 4-5. Station Menu

```

1 Station
    
```

Figure 4-6. Station Sub-menu

```

1 Station Information
2 Meter Runs
    
```

Figure 4-7. Station Information Screen (1)

Station Information 1	
Point Tag	Station 1
Flow Rate	0.00
Flow Today	0.00
Flow Yday	0.00
Energy Rate	0.00
Energy Today	0.00
Log# -	Log# +

Some of the information on this screen (such as flow rates, flow totals, energy rates, and energy totals) is display-only; you cannot change it. (If the screen contains 8 or more lines of information, use the **↑** and **↓** keys on the keypad to view those additional lines.) But you can, for example, change the tag associated with this station number by selecting that line and pressing **ENTER**. The highlighting jumps to **Station 1**, as shown in [Figure 4-8](#).

Figure 4-8. Station Information Screen (2)

Station Information 1		
Point Tag	Station 1	
Flow Rate	0.00	
Flow Today	0.00	
Flow Yday	0.00	
Energy Rate	0.00	
Energy Today	0.00	
Cancel	Reset	OK

Use the keys on the keypad to re-label **Station 1**. Note also that the displays at the bottom of the screen have changed, and are now labels for the F1, F2, and F3 keys on the keypad. Pressing those keys enables you to, respectively, **Cancel**, **Reset**, or **OK** the change.

In a similar way, [Figure 4-9](#) shows that F1 has the label **Log# -** and F2 has the label **Log# +**. Using the F1 and F2 keys, you can page through the logical iterations (stations) defined for this meter, and view information for Station 2, Station 3, and so on.

[Figure 4-9](#) shows one of two RTD input screens:

Figure 4-9. RTD Information Screen

```

      RTD 8-1
Point Tag   RTD Deflt
Units Tag           deg C
EU Value           350.00

Log# - Log# +
    
```

Use the F1 or F2 key to review the values for the RTDs defined for the ROC800.

Finally, *Figures 4-10* and *4-11* show an event log, which provides event details on the upper screen and lists events on the lower screen:

Figure 4-10. Selected Event (Upper Display)

```

Param Change Event
Operator: LOI
Type :RTD
Logic: 128
Param: UNITS
Data Type : STRINGØ
New Val: deg C
    
```

Figure 4-11. Event Log Entries (Lower Display)

```

      Events
1 15:41:11 06/06/07
2 15:41:11 06/06/07
3 15:41:11 06/06/07
4 15:41:11 06/06/07
5 15:41:11 06/06/07
6 15:41:11 06/06/07

Up   Down  New
    
```

Here the F1, F2, and F3 keys have been assigned values of **Up**, **Down**, and **New**, enabling you to move up and down the event log. Press **New** to assign a description for a new event.

4.1.4 Logging Out

When you are finished with this session using the keypad display, select the **Logout** on the Main menu and press **ENTER**. This logs you out and redisplay either the Keypad PIN (*Figure 4-2*) or the standard login screen (*Figure 4-3*).

CAUTION

Logging out is **essential** for security. Although the keypad display automatically logs users off after the period of time you define on the Keypad Display tab on the Device Information screen (see *Figure 3-2*), until that period expires anyone with a valid login ID and password can access all ROC800 menus and submenus.

4.2 Point Type 236: Display Configuration

Point type 236 contains the parameters defining selections for the keypad display. The program maintains one logical point for each keypad and saves point type 236 information to internal configuration memory.

Point Type 236: Display Configuration

Param #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of Functionality and Meaning of Values
0	Reserved	R/O	System	UINT8	1	0→255	0	1.0	
1	LCD Status	R/O	User	UINT8	1	0→4	0	1.0	Indicates current LCD Status: 0: OK 1: Invalid Display Conf File 2: Display Conf File CRC Error 3: LCD Not Installed 4: Unknown Error
2	LCD Video Mode	R/W	User	UINT8	1	0→1	0	1.0	Select between dark text on light background or light text on dark background. 0: Dark on Light 1: Light on Dark
3	LCD Power Save Time	R/W	User	UINT8	1	0→255	0	1.0	Enables/disables the power saving feature of the LCD. 0: Disable Power Saving When set to anything greater than 0, that defines the number of minutes of inactivity required before placing the LCD into sleep.
4	LCD Auto Logout Period	R/W	User	UINT8	1	0→255	30	1.0	Defines, in minutes, the Time Out Period for the keypad auto logout.

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Point Type 236: Display Configuration

Param #	Name	Access	System or User Update	Data Type	Length	Range	Default	Version	Description of Functionality and Meaning of Values
5	LCD Logout Scroll Time	R/W	User	UINT8	1	0→255	5	1.0	The number of seconds between updates of screen shown when user is logged out.

Chapter 5. ROC Keypad Display Pattern

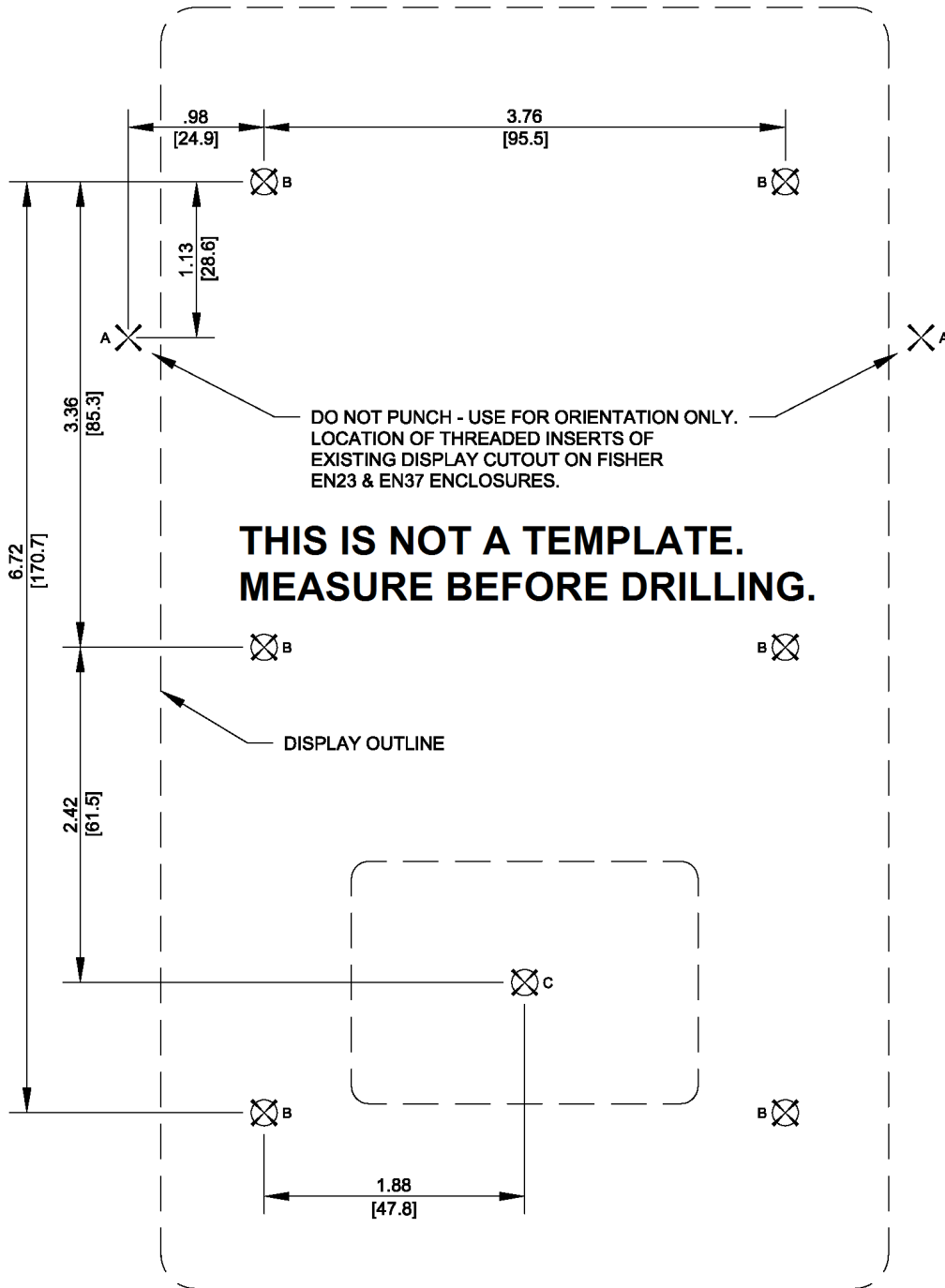
This appendix provides a pattern that you can use to install the ROC800 keypad display.



Important

Figure 5-1 (on the following page) provides the dimensional *measurements* you use to mount the keypad. It is ***not a template***.

Figure 5-1. Enclosure Mounting Hole Pattern



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