

Tutorial

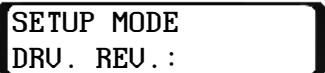
In this chapter....

- EZText Panel Setup
- Installing EZText Programming Software
- Installation Screens
- Tutorial
 - Plan the Project using Application Worksheets
 - Create the Project using EZText Programming Software
 - Configure a PLC

EZText Panel Setup

SETUP Mode

In order to download the program to the EZText Panel using the EZText Panel Programming Software, you must be in the Setup Mode. Setup Mode is also where you will **adjust the display contrast** of the EZText Panel.



SETUP MODE
DRU. REV. :

The EZText Panel will start up in the RUN Mode. To access the SETUP Mode, follow these steps:

1. Press the **UP Arrow** Pushbutton and hold while simultaneously pressing the **DOWN Arrow** Pushbutton to enter the SETUP Mode.
2. At any time you may press the Escape (**esc**) button to go back to RUN Mode. You will be taken back to the start of the Local Message menu (cursor is placed at root level when you return from setup).

Adjust Display Contrast

You may only adjust the Display Contrast when in Setup Mode. To adjust the display contrast use the UP and DOWN Arrows to increase or decrease the contrast.

Internal Software and Hardware Revisions

While in **SETUP** Mode the Panel Hardware Revision, Driver Revision, Boot Revision, and Exec (Firmware) Revision numbers will display on the panel.

Preparing for Configuration

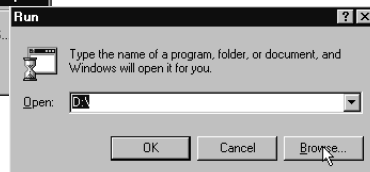
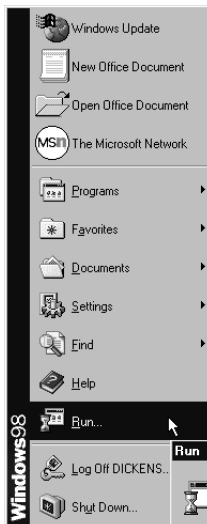
If you prepare and plan ahead of time, your use of the EZText Panel Programming software will be successful. Below are a few important steps to take to prepare to program your application.

- Prepare your personal computer and ensure proper installation of the EZText Panel Programming Software
- Know your operator interface requirements. Determine the type of EZText Panel and the number of EZText Panels required by your application
- Know your PLC type and available resources, such as, programming tools, CPU capabilities, user memory, etc.
- Verify type of communications port, as well as protocol used. Determine the CPU link(s) available for connecting an EZText Panel (RS-232/RS-422, baud rate, parity, stop bits.)

- Determine how the pushbuttons, LEDs, PLC Messages, and Local Messages will be assigned in your panels with respect to your machine or process.
- To prepare your application, use the application worksheets provided in appendix A of this manual. The example worksheets will help you understand how the EZText Panel program is configured. Blank worksheets can be used in planning, implementing, and using your EZText Panels.

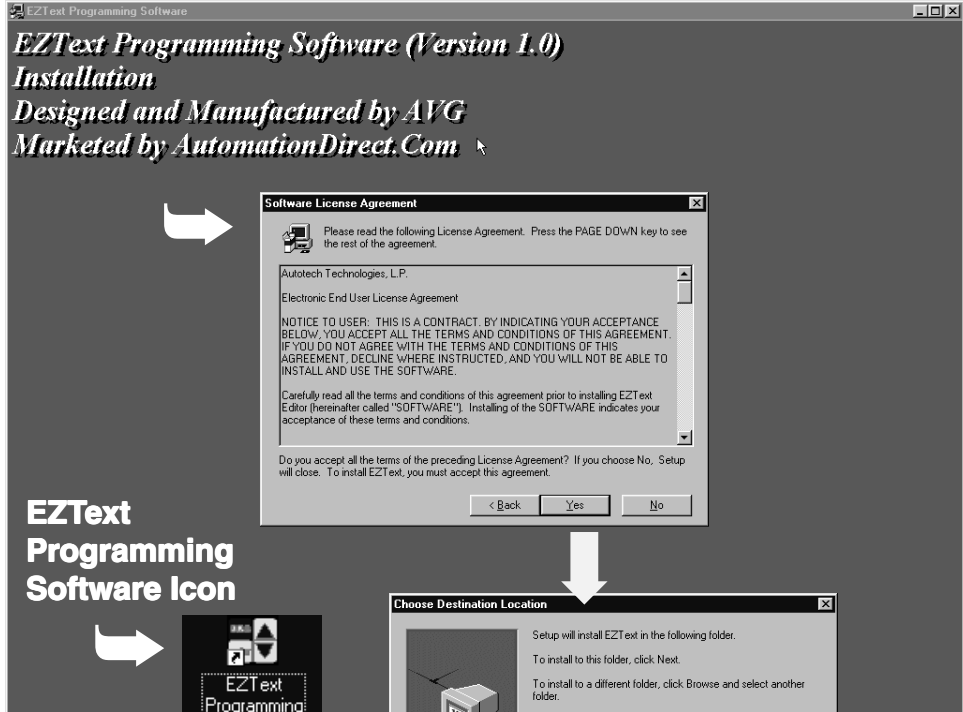
Installing EZText Programming Software

EZText Panels are configured with software running on an IBM or compatible personal computer. This software is available through Automationdirect.com, part number EZ-TEXTEDIT. The software is used to download your configuration before connecting the panel and communicating with a PLC. Help Topics are provided to help you configure your panel. You design and configure your EZText Panel program off-line and save it to disk. The program may then be transferred to the EZText Panel. To install EZText Programming Software, perform the following steps:

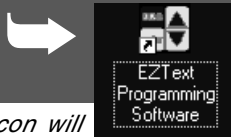


- Place the CD into your **CD ROM Drive**. 
- From Windows click on the **Start** Button, and then click on **Run** from the menu. The **Run** dialog box will pop up.
- At the prompt type D:\ (or your CD Drive) setup.exe or click on the **Browse** Button and find the **Setup.exe** file for EZText Programming Software.
- Click on the **OK** button to begin the installation. The EZText Programming Software Installation Screen will appear.
- Follow the onscreen prompts to load the software.

Installation Screens



EZText Programming Software Icon



This icon will appear on your desktop after installation.



This is the final installation screen. Here you select the destination folder where your software program will be installed. The default destination location is C:\Program Files\EZText. If you wish to select another destination, click on the Browse button.

To complete the installation, click on Next button. That's all there is to it! The EZText icon shown above will appear on your desktop. Simply click on it to open the Programming Software!



Tutorial — Plan the Project using Application Worksheets

The following is a project tutorial. It will take you through the process of creating a new project, configuring buttons and annunciator lamps, creating messages, and transferring a project to the EZText Panel. This should help familiarize you with the EZText Programming Software.

Let's start by filling out the application worksheet found in Appendix A. For tutorial purposes, we have already filled in the information. For your project, make copies of the forms in Appendix A. Follow steps 1 through 4 as shown below to fill out the application worksheet for the EZText Demo Project.

EZTEXT PANEL APPLICATION WORKSHEET

1 PROJECT NAME: EZText Demo Project PANEL TYPE: EZ-220P

1 Fill in the Project and PLC information.

PLC CONFIGURATION:
 PLC MANUFACTURER: DirectLogic Baud Rate: 9600
 PLC Model: 250 Parity: odd
 PLC Protocol: K-Sequence Data Bits: -
 PLC Address: 1 Stop Bits: -
 PLC Timeout: 40 secs. Checksum: -

2 BUTTONS/LEDS
 BUTTON ACTION/PANEL ACKNOWLEDGE (BIT WRITE) PLC WORD V40600

2 Assign a PLC Word (V40600) to the buttons and to the Panel Acknowledge (if using Panel Set/ PLC Release for Button Action). See next page.

Button Action:			* Panel Acknowledge of PLC Release:
	(PLC Address)	Mom. Alt. Pnl Set/ PLC Rel *	(PLC Address)
F1	<u>C0</u>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	ACK F1 <u>not used</u>
F2	<u>C1</u>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	ACK F2 <u>not used</u>
F3	<u>C2</u>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	ACK F3 <u>not used</u>
F4	<u>C3</u>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	ACK F4 <u>C13</u>
F5	<u>C4</u>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	ACK F5 <u>not used</u>

3 LED CONTROL/PLC BUTTON RELEASE (BIT READ) PLC WORD V40601

3 Assign a PLC Word (V40601) to the LED Control (if using By PLC) and PLC Button Release (if using Panel Set & PLC Release Button Action). See next page.

LED Control:			* PLC Button Release:
	(PLC Address)	By Button By Button & Flash PLC **	(PLC Address)
LED1	<u>not used</u>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	REL F1 <u>not used</u>
LED2	<u>C21</u>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	REL F2 <u>not used</u>
LED3	<u>not used</u>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	REL F3 <u>not used</u>
LED4	<u>not used</u>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	REL F4 <u>C33</u>
LED5	<u>not used</u>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	REL F5 <u>not used</u>

* Panel Acknowledge and PLC Button Release are only used when using the Panel Set & PLC Release Button Action.
 ** LED Control by PLC is the only LED function that uses a PLC Address.

This is a copy of page 29 Chapter 3, Learning the Features. Shown here are the bit addresses for the Button PLC Word (V40600) and LED PLC Word (V40601) in this tutorial.



Please note that any unused bit address SHOULD NOT BE USED in your PLC program. The EZText Panel will control the unused bits.

Pushbuttons

Pushbuttons use one 16-bit register. All bit designations are in octal (0–7 and 10–17), used by DirectLogic PLCs. Use bits 0 to 15 for PLCs using decimal numbering.

BUTTONS (BIT WRITE) PLC WORD — (FROM PANEL)

V40600

C17	C16	C15	C14	C13	C12	C11	C10	C7	C6	C5	C4	C3	C2	C1	C0
17	16	15	14	13	12	11	10	7	6	5	4	3	2	1	0
NA	NA	NA	ACK F5	ACK F4	ACK F3	ACK F2	ACK F1	▼	▲	ENT	F5	F4	F3	F2	F1

F1–F5 = Function Pushbuttons 1–5

ENT = Enter

▲ ▼ = Arrow UP/DOWN

ACK F1–F5 = Panel acknowledge of PLC button release

NA = not used (Do not use for other PLC program addresses)

Bits 0–7 are set when pressing the corresponding button on the panel.

Bits 10–14 are set when the **Panel Set and PLC Release** Option is selected for the corresponding Function Pushbutton and the Release Bit for that button is set by the PLC in the LED (BIT READ) PLC WORD.

LEDs

LEDs use one 16-bit register. All bit designations are in octal (0–7 and 10–17), used by DirectLogic PLCs. Use bits 0 to 15 for PLCs using decimal numbering.

LED (BIT READ) PLC WORD — (TO PANEL)

V40601

C37	C36	C35	C34	C33	C32	C31	C30	C27	C26	C25	C24	C23	C22	C21	C20
17	16	15	14	13	12	11	10	7	6	5	4	3	2	1	0
NA	NA	NA	REL F5	REL F4	REL F3	REL F2	REL F1	NA	NA	NA	LED5	LED4	LED3	LED2	LED1

LED1–LED5 = Only used when **By PLC** has been chosen.

REL F1–REL F5 = Used by PLC to release a button that is set by the panel.

NA = not used (Do not use for other PLC program addresses)

EZTEXT PANEL APPLICATION WORKSHEET

4

ANNUNCIATOR:

ANNUNCIATOR LAMPS (BIT READ) PLC WORD V40602

4 Assign a PLC Word (V40602) to the Annunciator Lamps.

(PLC Addresses)
 LAMP 1 (BIT 0) C40 (BIT 1) C41
 LAMP 2 (BIT 2) C42 (BIT 3) C43
 LAMP 3 (BIT 4) C44 (BIT 5) C45

Color	LAMP 1		LAMP 2		LAMP 3	
	BIT 0	BIT 1	BIT 2	BIT 3	BIT 4	BIT 5
OFF	OFF	OFF	OFF	OFF	OFF	OFF
Red	ON	OFF	ON	OFF	ON	OFF
Amber	ON	ON	ON	ON	ON	ON
Green	OFF	ON	OFF	ON	OFF	ON

5

PLC Messages (PLC Words)

Line 1 V3000 Line 2 V3001

5 Assign a PLC Word for each PLC Message Line.



For the next part of our project planning, we'll create four Local Messages using the Local Message Worksheet. These messages will be configured later in our EZText Demo Project using the EZText Programming Software.

EZTEXT PANEL APPLICATION WORKSHEET

LOCAL MESSAGES:

1

- 1 Add a Folder at Level 1

Folder
 Message
 Level: 1 2 3 4

Process Control

Folder = 19 characters, Message = 20 characters

DATA 1 _____ Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min _____ Max _____
 DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

2

- 2 Add a Message under the Folder at Level 2

Folder
 Message
 Level: 1 2 3 4

Press Fl to start Y0

Folder = 19 characters, Message = 20 characters

DATA 1 _____ Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min _____ Max _____
 DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

3

- 3 Add another Message at Level 2. This Message is a READ Only with one data point (DATA1).

Folder
 Message
 Level: 1 2 3 4

zone 1 Temp = 1111.1

Folder = 19 characters, Message = 20 characters

DATA 1 V2010 Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min _____ Max _____
 DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

4

- 4 Add another Message at Level 2. This Message is a READ/WRITE for data entry with one data point (DATA1) with a min. and max. value range.

Folder
 Message
 Level: 1 2 3 4

Load Part #1111

Folder = 19 characters, Message = 20 characters

DATA 1 V2011 Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min 1200 Max 1999
 DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

The last part of our project planning is creating three PLC Messages using the PLC Message Worksheet. These messages will be configured later in our EZText Demo Project using the EZText Programming Software.

1

EZTEXT PANEL APPLICATION WORKSHEET

- 1 Add Message No. 1. When F3 button on panel is pressed, this message will be displayed.

PLC MESSAGES:

Message No. 1

F	3		B	u	t	t	o	n		m	e	s	s	a	g	e			
---	---	--	---	---	---	---	---	---	--	---	---	---	---	---	---	---	--	--	--

20 characters

DATA 1 _____ Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min _____ Max _____

DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

2

- 2 Add Message No. 2. This message will be displayed to let the operator know that the PLC has turned off F4 button on the panel.

Message No. 2

P	L	C		R	e	l	e	a	s	e		B	i	t		A	c	k	n
---	---	---	--	---	---	---	---	---	---	---	--	---	---	---	--	---	---	---	---

20 characters

DATA 1 _____ Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min _____ Max _____

DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

3

- 3 Add Message No. 3. This message will be displayed when either of the other messages are displayed, to let the operator know how to return to Local Messages.

Message No. 3

E	S	C		f	o	r		L	o	c	a	l		M	s	g	s		
---	---	---	--	---	---	---	--	---	---	---	---	---	--	---	---	---	---	--	--

20 characters

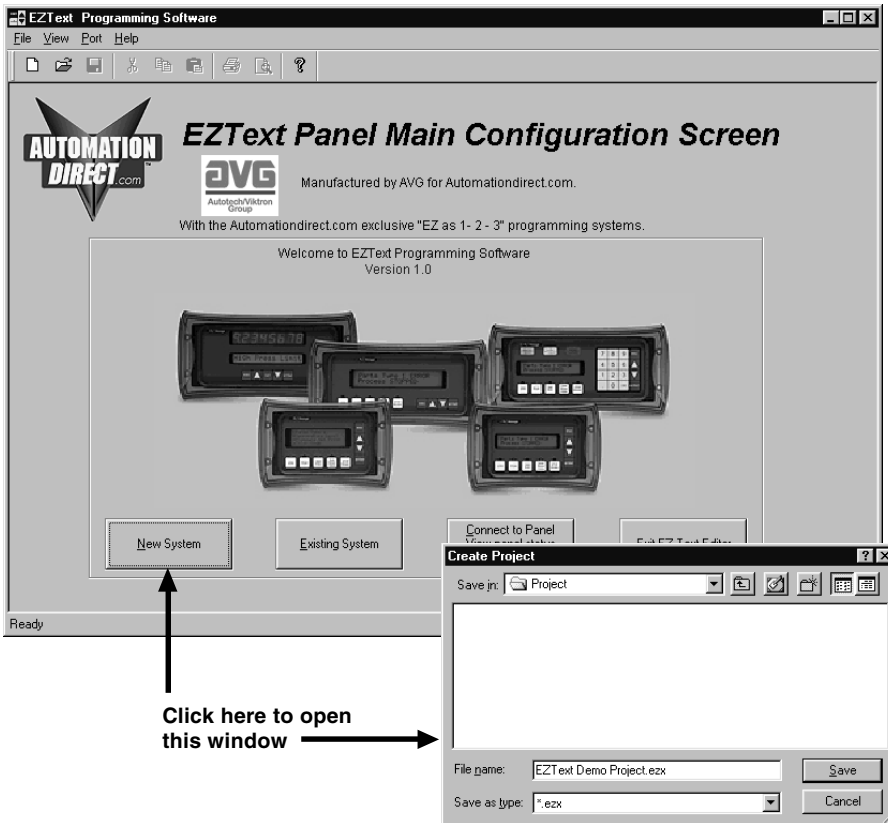
DATA 1 _____ Read Only
 BCD Binary Read/Write
 PLC Decimal _____ Min _____ Max _____

DATA 2 _____ DATA 3 _____
 BCD Binary BCD Binary

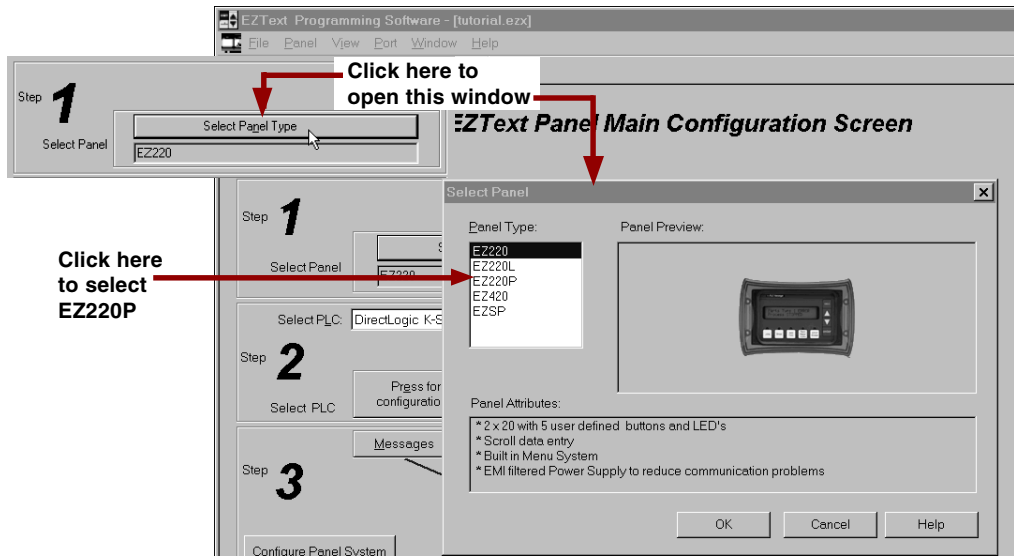
Tutorial — Create the Project using EZText Programming Software

Let's assume you have the programming software installed on your PC (if you don't, go back to page 41 and install now). Connect the EZText Panel to your PC using the P/N EZTEXT-PGMCBL cable. Apply 24 VDC to the panel power connector.

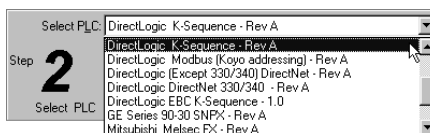
1. From the **Welcome** screen, click on the **New System** button.
2. The **Create Project** window will appear. Type in "EZText Demo Project" in the **File name** field. Click on **Save**. (If you don't want your project saved to the default "Project" folder, navigate to the directory and/or folder where you want it to reside.)



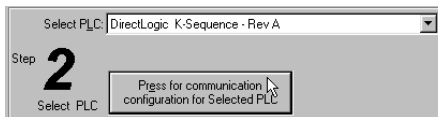
3. In **Step 1, Select Panel**, you will start your project by selecting the panel type you are using.
 - a. From the **Main Configuration Screen**, click on the **Select Panel Type** button.
 - b. The **Select Panel** dialog box will open. Under **Panel Type**, click on the panel type you are using to highlight it. A picture of the panel will appear under **Panel Preview**, and key features of the panel are displayed under **Panel Attributes**.
 - c. Click on the **OK** button to select, and close the dialog box.



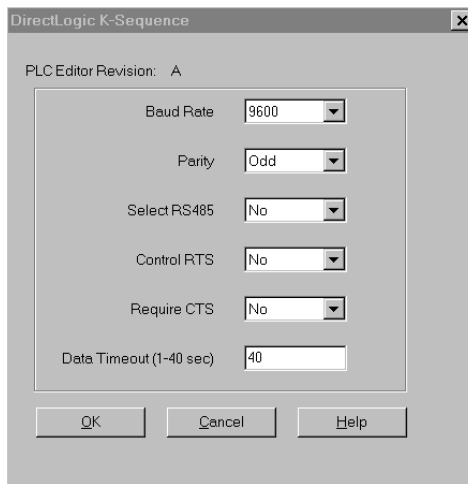
4. In **Step 2, Select PLC**, you will choose the type PLC you are using.
 - a. Click on the **DOWN** arrow next to the **Select PLC** field to view the drop down menu of available PLCs. Click on the **PLC TYPE** to select.



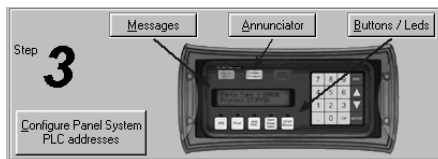
- b. Click on the **Press for communication configuration for Selected PLC** button.



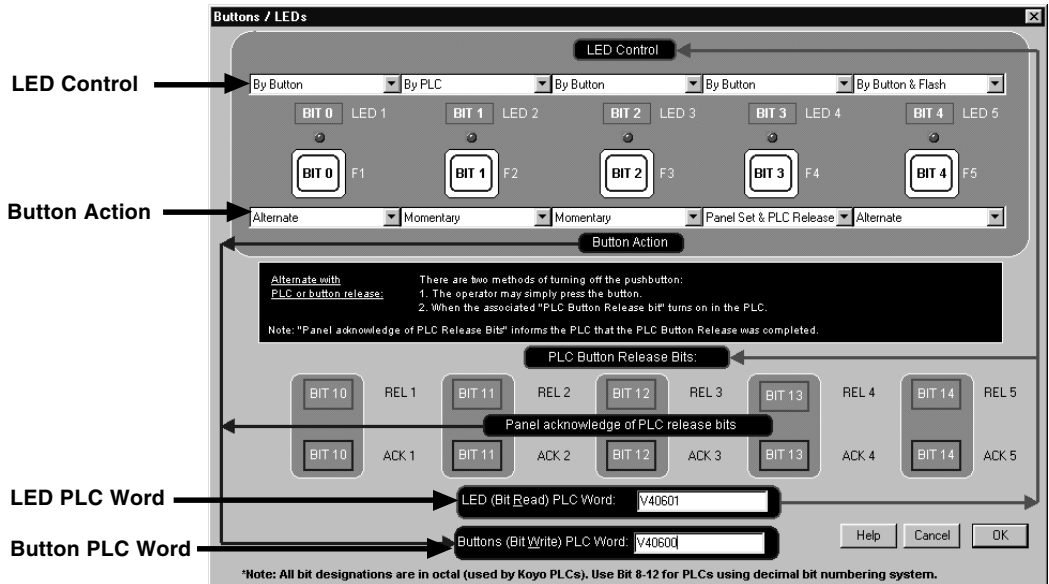
- c. The **PLC Attributes** window will appear for the PLC you have selected. (In this case, DirectLogic K-Sequence.) Set the attributes to match those in the screen capture, below. Click on the **OK** button.



- 5. In **Step 3** you will configure the **Buttons/LEDs, Messages, Annunciators, and Panel System PLC Addresses.**



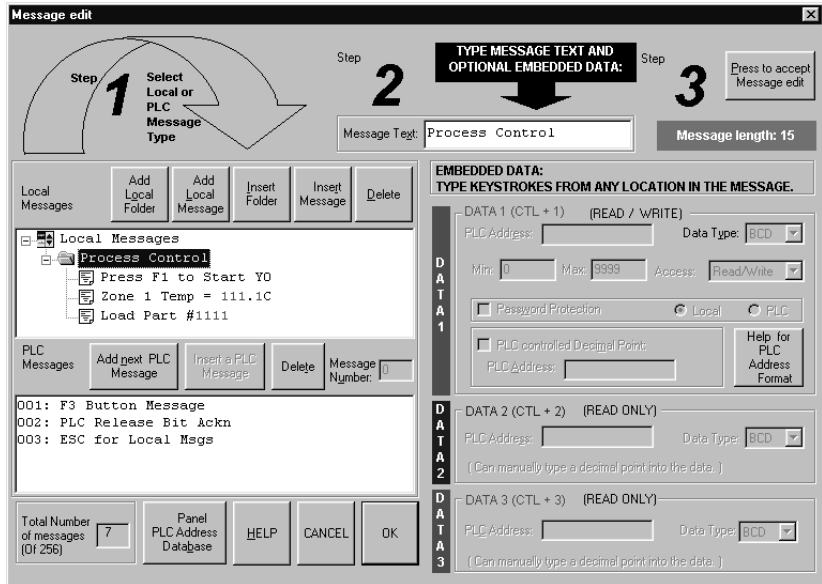
- 6. Click on the **Buttons/LEDS** button. The following screen will appear.



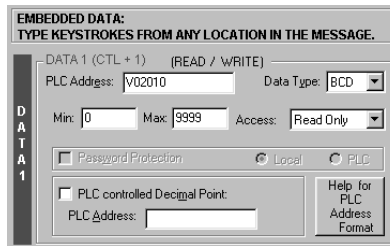
- a. Under **LED Control**, click on the down arrow to view control choices. Select **By Button** for **LED 1**, **LED 3** and **LED 4**. Select **By PLC** for **LED 2**, and **By Button & Flash** for **LED 5** (selections should be as shown in the screen capture above).
 - b. Under **Button Action**, click on the down arrow to view control choices. Select **Alternate** for **F1** and **F5**, **Momentary** for **F2** and **F3**, and **Panel Set & PLC Release** for **F4**.
 - c. Assign a PLC Word for the LEDs and the Buttons. These PLC Words should be a BIT Register.
 - d. Click on **OK** to accept and exit the screen.
7. Click on the **Annunciator** button. The screen shown to the right will appear.
- a. Assign a **PLC Read Word (Bits)**. The PLC Word should be a BIT register.
 - b. Click on **OK** to accept and exit the screen.



8. Next, we'll show you how to configure **Local Messages**. Click on the **Messages** button for **Step 3** on the Main Configuration Screen. The following screen will appear.

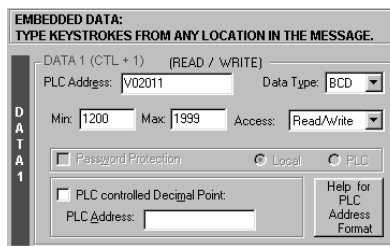


- a. Click on the **Add Local Folder** button (**Step 1**). In the **Message Text** field (**Step 2**), type in **“Process Control.”** Click on the **Press to accept Message edit** button (**Step 3**).
- b. Click on the **Process Control** Folder to select it, and then click on the **Add Local Message** button.
- c. Enter **“Press F1 to Start Y0”** in the **Message Text** field and then click on the **Press to accept Message edit** button.
- d. Next we'll configure a **Dynamic Message**. Click on the **Process Control** Folder, then click on **Add Local Message** and type in **“Zone 1 Temp =”**. After **Zone 1 Temp =**, enter a space and press **F5** (or **Ctrl +1**) three times, type in a decimal point, then press **F5** again. Type in a **“C”** immediately after the **“111.1”**. (**DATA 1** will appear as four, red ones in the message.)



- e. Under the **DATA 1** section of the screen shown above, type in “**V2010**” in the **PLC Address** field. The **Data Type** should be set to **BCD**, and **Access** should be **Read Only**.
- f. Click on the **Press to accept Message edit** button.
- g. The last **Local Message** to be configured will be an **Interactive** message (**DATA 1**).
- h. Click on the **Process Control** Folder, then click on **Add Local Message**.

- i. In the **Message Text** field, type in “**Load Part #**”, leave a space, and then press F5, or Ctrl + 1, four times. (**DATA 1** will appear in the **Message Text** field as four, red ones.)

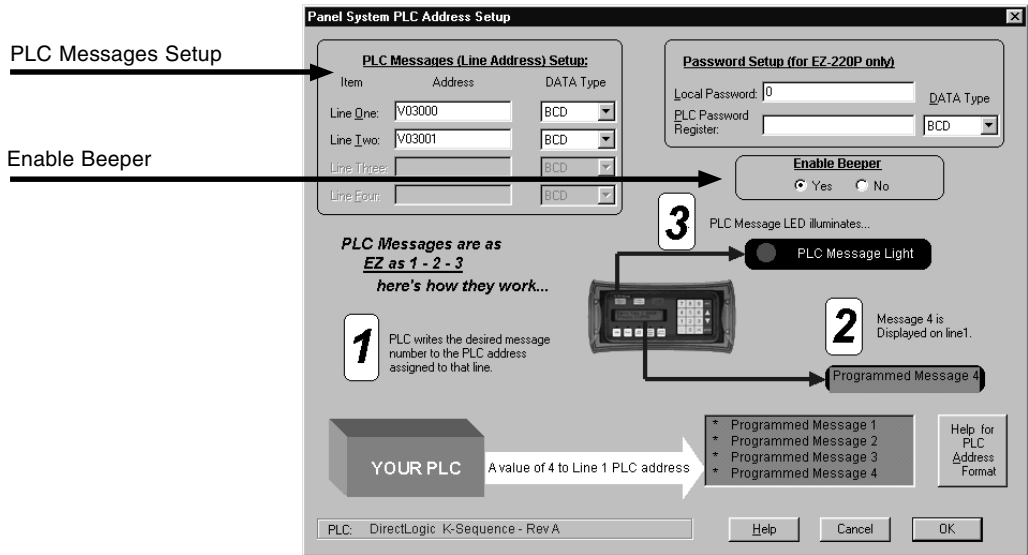
- j. The **DATA 1** configuration area is now available (no longer grayed out.) Next to **PLC Address**, type in “**V2011**”. **Data Type** should be **BCD**. **Access** is **Read/Write**. Set the **Min.** value to “**1200**” and the **Max.** value to “**1999**” (settings are shown in the screen capture, above.) This will limit what value can be entered by the operator.
- k. Click on the **Press to accept Message edit** button to save it.



9. To create PLC Messages 001, 002, and 003 as shown in the screen capture above, perform the following steps:
 - a. Click on the **Add next PLC Message** button.
 - b. Type in the **Message Text** field, “**F3 Button Message**”.
 - c. Click on the **Press to accept Message edit** button to save it.
 - d. Click on the **Add next PLC Message** button.
 - e. Type in the **Message Text** field, “**PLC Release Bit Ackn**”.
 - f. Click on the **Press to accept Message edit** button to save it.
 - g. Click on the **Add next PLC Message** button.
 - h. Type in the **Message Text** field, “**ESC for Local Msgs**”.
 - i. Click on the **Press to accept Message edit** button to save it.
10. You are now finished configuring the messages for this tutorial, click on **OK** to exit the **Message Edit** screen.
11. The final part of **Step 3** is to configure the panel system PLC addresses. To configure PLC addresses, click on the **Configure Panel System PLC addresses** button.



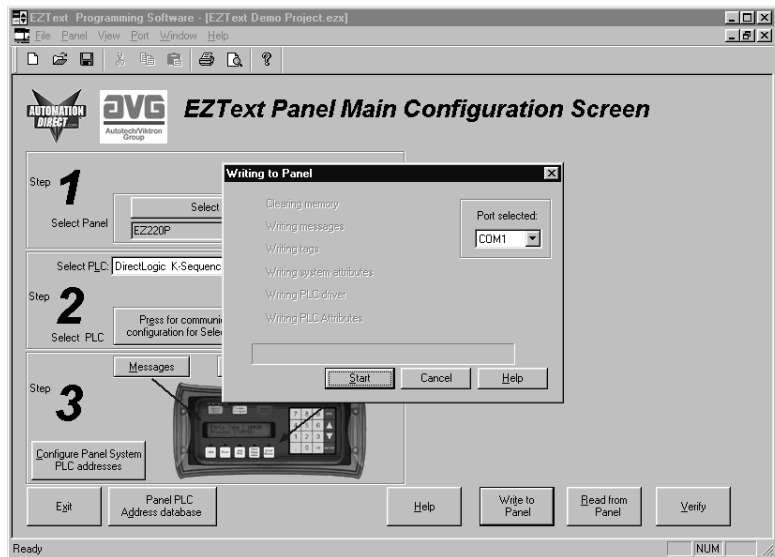
12. The **Panel System PLC Address Setup** screen will appear. Enter settings as follows:



- a. Type in “V3000” in the **Line One** field. Select **BCD** as the **DATA Type**. Type in “V3001” in the **Line Two** field. Select **BCD** as the **DATA Type**.
- b. The panel beeper is defaulted to **Yes**. If you do not want to hear the beeper each time a button is pressed, select **No** under **Enable Beeper**.
- c. Click on the **OK** button to save and exit.

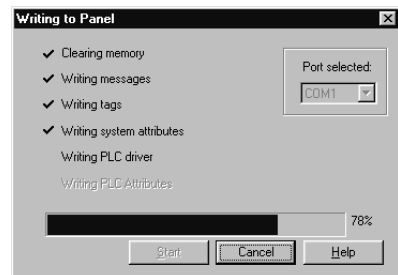
13. You are now ready to write the project to the EZText Panel.

14. Click on the **Write to Panel** button on the **Main Configuration Screen**.



15. The **Writing to Panel** screen will appear. Click on the down arrow under **Port selected** and select the COM port on your PC that is connected to the EZText Panel (COM1, COM2, COM3 or COM4).
16. Before proceeding, ensure that the panel you are about to write to is in the **Setup Mode**. To enter the **Setup Mode**, press the UP and DOWN arrows on the EZText Panel simultaneously. The panel display will read **SETUP MODE** on the first line.
17. Click on the **Start** button on the **Writing to Panel** screen, as shown above.

18. The progress of the **Write to Panel** process will be shown by a check mark placed in front of the items as the project is written to the panel. The status bar along the bottom portion of the screen will also show the progress.

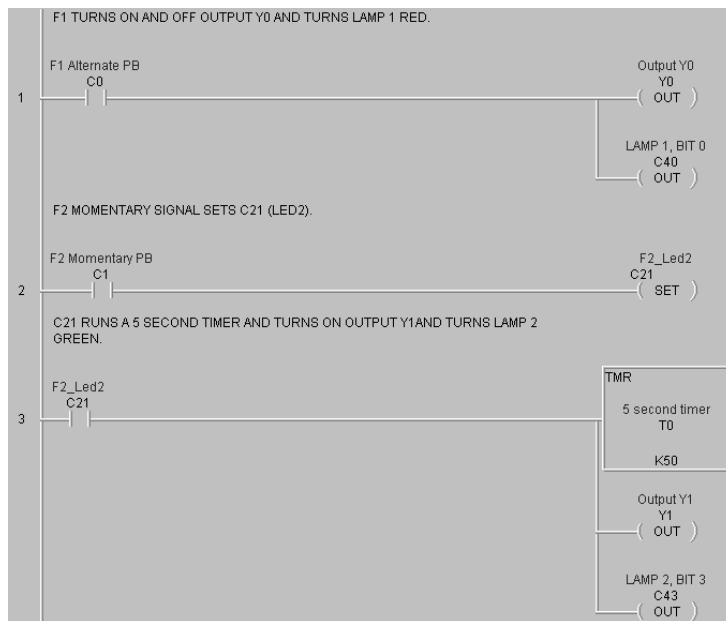


19. Now that the panel is configured, let's connect our PLC programming software to the PLC and write the ladder program.

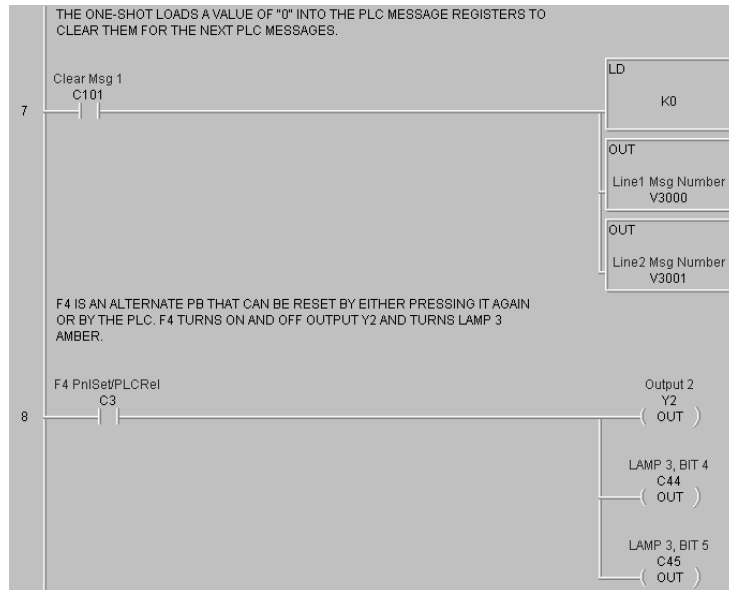
Tutorial — Configure a PLC

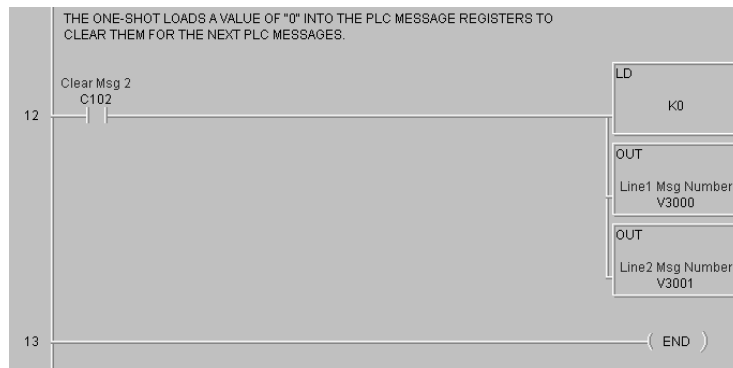
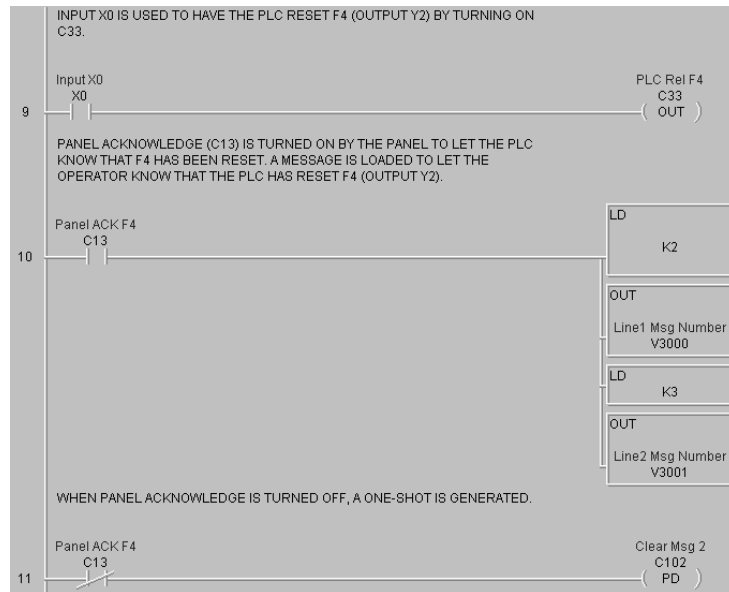
For the purposes of this tutorial, we will be using a DirectLogic® DL05 PLC. To configure the PLC we are using DirectSOFT® Programming Software. The purpose of this part of the tutorial is to show you how to configure your PLC to communicate with an EZText Panel.

1. Connect to the PLC with DirectSOFT.
2. Enter the following ladder logic.



— continued, next page





3. Save the Program to the PLC and to disk (EZTextDemoProject).
4. Place the PLC in Run Mode.

The PLC is now configured and running. Now, to test our project, connect the Panel to PLC communications cable (P/N EZ-2CBL), to the panel port and the PLC port.

1. Press the **esc** (escape) button on the EZText panel. The Local Message (folder), “- **Process Control**”, will be displayed on the first line.

2. Press the **enter** button to open the folder. Level 2 Local Message “**Press F1 to Start Y0**” will be displayed. Use the ▲▼(arrow) buttons to scroll through the messages. Press the **esc** button to go back to the Folder Level 1.
3. Press **F1** to turn ON or OFF **Y0**, and turn **LAMP 1** Red.
4. Press **F2** to turn ON **Y1** and LAMP 2 Green for 5 seconds.
5. Press **F3** to display **PLC Message No. 1**.
6. Press **F4** to turn ON **Y2** and **LAMP 3** Amber. Either press **F4** again to turn it OFF, or turn on **X0** in the PLC. If the PLC turns OFF **F4**, a message will be displayed.
7. Press **F5** to see an alternate button with flashing LED.

CONGRATULATIONS! You have now successfully configured an EZText Panel!

