Allen-Bradley

PanelBuilder32

**Application Development
Software for PanelView
Standard Terminals**

Quick Start

**Rockwell
Automation**

Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of this control equipment must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards.

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Allen-Bradley does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Allen-Bradley publication SGI-1.1, *Safety Guidelines for the Application, Installation and Maintenance of Solid-State Control* (available from your local Allen-Bradley office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

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Throughout this manual we use notes to make you aware of safety considerations:

ATTENTION

Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss

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Attention statements help you to:

- identify a hazard
- avoid a hazard
- recognize the consequences

IMPORTANT   Identifies information that is critical for successful application and understanding of the product.

Preface

Chapter 1 - System setup

Chapter 2 - Overview of application

Chapter 3 - Creating the application

Chapter 4 - Configuring communications

Chapter 5 - Entering application tags

Chapter 6 - Downloading the application

Chapter 7 - Running the application

Appendix A - Application programs

Welcome to PanelBuilder32. To help you get started and become a successful user of PanelBuilder32, this guide provides you with a sample application. It will take you through all the steps required to create, download, and run the application in a PanelView terminal.

Application tags and ladder logic are provided so that you can run the application on the following communication networks:

- DH+ or DH-485
- EtherNet/IP
- ControlNet (unscheduled and scheduled)
- DeviceNet (I/O messaging)
- Remote I/O
- DF1
- Modbus

For more information on PanelBuilder32 software features, refer to the Getting Results manual and the extensive online help available within PanelBuilder32.

PanelBuilder32 runs in the Microsoft Windows environment. You should be familiar with basic window operations such as using menus, dialogs and toolbars.

Contents of this guide

- Preface
  An overview of this guide and what you need to create, download and run the sample application.

- Chapter 1 - *Initial system setup*
  Describes the setup of system components.

- Chapter 2 - *Overview of sample application*
  Provides a description of the sample application and its function.

- Chapter 3 - *Creating the sample application*
  Provides step-by-step procedures for creating the sample application.

- Chapter 4 - *Configuring communications*
  Shows how to configure network communications for your PanelView terminal and logic controller.

- Chapter 5 - *Entering application tags*
  Shows how to use the tag editor to enter your application tags.

- Chapter 6 - *Downloading the application*
  Shows how to validate and download your application to the PanelView terminal.

- Chapter 7 - *Running the application*
  Shows how to run the application in the PanelView terminal.

- Appendix A - *Application Programs*
  Listing of the available ladder logic programs suitable for your application. Also provides a printout of each program.

What you need

This section lists the requirements for creating, downloading and running the application on a Remote I/O, DH+, DH-485, ControlNet, DeviceNet, EtherNet/IP, DF1, or Modbus network.

Download cables

Your terminal has an RS-232 (DF1), RS-232 (DH485), or DH-485 port through which applications are transferred. Use the appropriate cable from the lists below.

RS-232 Programming Port - To download an application to an RS-232 programming port on a PanelView terminal, you will need a download cable. Use one of the following cables:

- Catalog No. 2706-NC13 (3 m/10 ft)
- Catalog No. 2711-NC13 (5 m/16.4 ft)
- Catalog No. 2711-NC14 (10 m/32.7 ft)

For the PanelView 300 Micro terminal, use one these cables:

- Catalog No. 2711-CBL-PM05 (5 m/15 ft)
- Catalog No. 2711-CBL-PM10 (10 m/30 ft)
- Catalog No. 1761-CBL-AP00 (.5 m/1.5 ft)
- Catalog No. 1761-CBL-PM02 (2 m/6.5 ft).

DH-485 Programming Port - To download an application to a DH-485 terminal you will need:

- Personal Computer Interface Converter (PIC), Catalog No. 1747-PIC and one these cables: Catalog No. 1747-C10, -C11, -C20.

or

- 1761-NET-AIC link coupler and one these cables: 1747-CP3, 1761-CBL-AS03 (3 m/9.8 ft), or 1761-CBL-AS09 (9.9 m/27.5 ft).

The Personal Computer Interface Converter receives power from an SLC controller. If you are downloading to a terminal without an SLC connected, you will need either a power supply (Catalog No. 1747-NP1) or a powered link coupler (Catalog No. 1747-NET-AIC).

Communication cables

DH-485 PanelView Terminals - To connect a PanelView DH-485 port to a DH-485 connector on an SLC, use DH-485 cable (Catalog No. 1747-C10, -C11, -C20).

RS-232 (DF1 or DH485) PanelView Terminals - To connect a PanelView RS-232/DF1 or DH485 communications port to an RS-232 port on a controller, use RS-232 cable (Catalog No. 2706-NC13, 2711-NC13, or NC14). To connect to the 8-pin RS-232 port on the MicroLogix 1000/1200/1500LSP controller, use Catalog No. 2711-NC21 or -NC22. (Refer to the AIC+ Advanced Interface Converter user manual (1761-6.4) for additional network configurations.)

For the 300 Micro, use one of these cables: Catalog No. 2711-CBL-HM05, -HM10, -PM05, or -PM10.

Remote I/O Terminals - To connect a PanelView RIO port to an RIO port on a PLC, use cable (Catalog No. 1770-CD) which is equivalent to Belden 9463.

DH + PanelView Terminals - To connect a PanelView DH+ port to a DH+ port on a PLC, use cable Catalog No. 1770-CD which is equivalent to Belden 9463.

ControlNet Terminals - To connect a PanelView to a ControlNet network, use coaxial cable Catalog No. 1786-CP.

EtherNet/IP Terminals - To connect a PanelView to an EtherNet/IP network, use a Category 5 shielded and unshielded twisted-pair cable with RJ45 connectors.

DeviceNet Terminals -To connect a PanelView to a DeviceNet network, use cable Catalog No. 1485C-P1A50, -P1A150, -P1A300. (Refer to the AIC+ Advanced Interface Converter user manual (1761-6.4) for additional network configurations.)

Modbus Terminals - To connect a PanelView to a MicroLogix 1200/1500 controller on a Modbus network, use cable Catalog No. 2711-NC21 or -NC22.

Personal computer

The minimum requirements for running PanelBuilder32 are:

- 100MHz Pentium Class 2 or greater PC compatible
- 30 MB free hard disk space required for a minimum installation
- 270 MB free hard disk space required for a full package installation
- 32 MB of installed RAM (48 MB RAM recommended)
- CD-ROM drive
- 500K free conventional memory

Software

In addition to PanelBuilder32, you will also need to load the applicable controller programming and network configuration software:

SLC or MicroLogix

Advanced Programming Software (APS), SLC-500 AI Software, RSLogix 500

PLC

- 6200 Series Programming Software, PLC-5 AI Software, RSLogix 5

ControlLogix

- RSLogix 5000, version 2.01 or greater
- RSNetworks for DeviceNet or DeviceNet Manager
- RSNetworks for ControlNet

Sample application and ladder logic

IMPORTANT	Installing the sample applications on your computer's hard drive is an option available during the installation of PanelBuilder32. If these files were not installed, you can still access them off the installation CD from the autorun menu.

The PanelBuilder32 installation CD contains:

- Sample applications (.PBA) for each of the PanelView terminals.
- Ladder logic to run the application for each of the communication protocols.

Refer to Appendix A for a list of these files.

PanelBuilder32 Application (.pba) files are located in the Quick Start\PV directory on the PanelBuilder32 installation CD.

Ladder Logic Program (.rss, .rsp, .acd) files are located in the Quick Start\SLC, \ML, \CL or \PLC directories on the PanelBuilder32 installation CD.

All other program files, such as DeviceNet SDN, scanner files are located in the Quick Start\DNet, or \CNet directories on the PanelBuilder32 installation CD.

System setup

PanelView terminals are available with many different communication options. In this chapter we provide a brief summary of the minimum equipment setups required to run the sample application. For specifics such as cable termination and baud rates, we recommend that you refer to the user and/or communications manual provided with your terminal. Refer to the section that applies to your terminal type.

- DH-485
- RS-232 (DH485)
- RS-232 (DF1)
- RIO
- DH+
- DeviceNet
- ControlNet
- EtherNet/IP
- Modbus

Safety guidelines

Refer to the PanelView Standard Operator Terminals user manual, Publication 2711-UM014B-EN-P, for installation instructions and safety precautions.

If you are running this sample application as a pre-installation desktop setup, the same safety precautions still apply. Make sure that you disconnect power from devices prior to making any communication connections.

DH-485 connections

DH-485 PanelView terminals communicate with external devices through either the DH-485 communications port or DH-485 programming connector. Some DH-485 terminals have an RS-232 port for printing.

Node 2
PanelView 1000 DH-485 Terminal Shown

DH-485
Programming
Connector

DH-485
Communications
Connector

Node 1
SLC Controller

Node 0
Personal Computer
PanelBuilder32

Serial Port
COM1 or COM2

Personal Computer
Interface Converter
(Catalog No. 1747-PIC)

Cable
(Catalog No. 1747-C10, -C11, -C20)
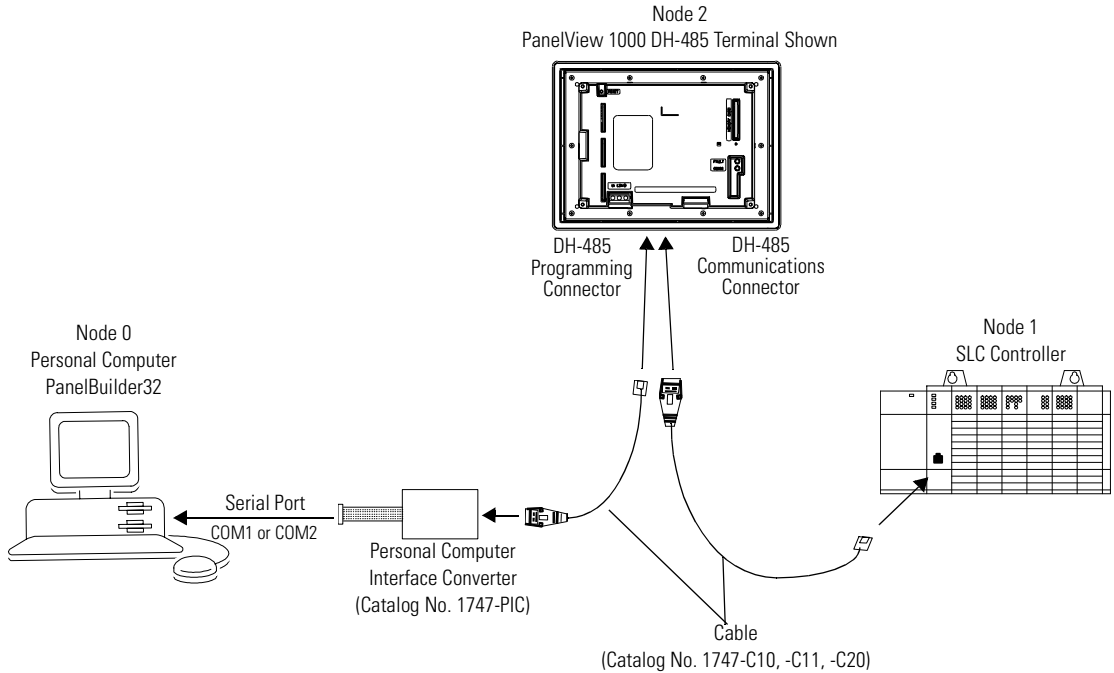
RS-232 connections (DH-485 protocol)

RS-232 (DH485) versions of the PanelView terminal are available with one or two RS-232 ports. On terminals with two RS-232 ports, one of the ports is a printer port. The other RS-232 communication port is for connection to an SLC or computer.
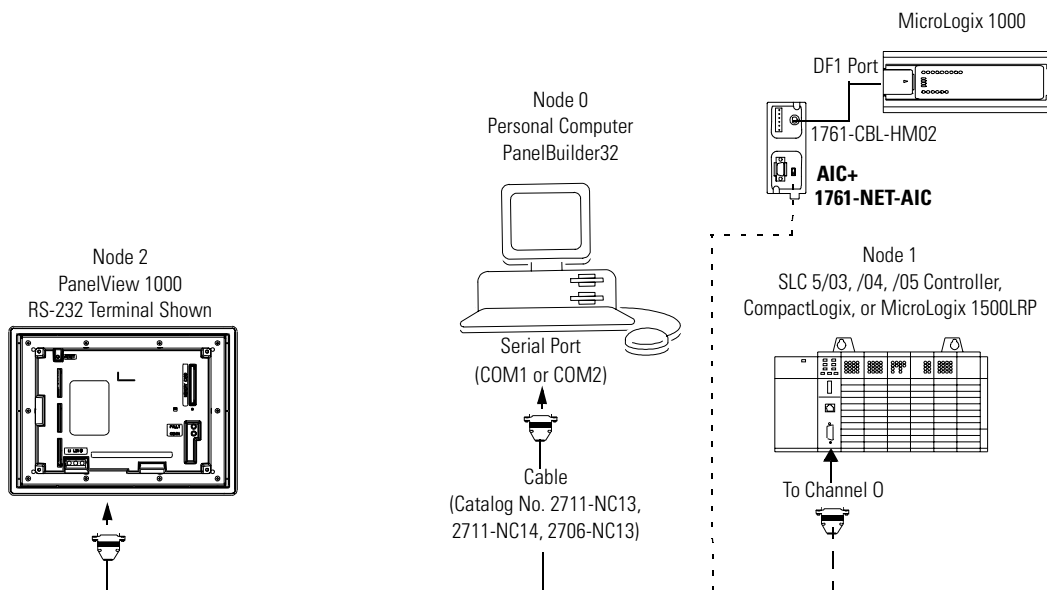
Note: Use the same cable to transfer applications to the terminal and to the SLC 5/03, 5/04, 5/05 controller. Change cable connection to controller after downloading.

IMPORTANT	You must configure the Channel 0 Port of the SLC 5/03, 5/04, 5/05 or MicroLogix controller for DH-485 communications using APS, AI500 or RSLogix 500 programming software.

RS-232 connections (DF1 protocol)

DF1 versions of the PanelView terminal have a DF1 (Full Duplex) communications port and an RS-232 file transfer/printer port. The DF1 port on the PanelView is a 9-pin, male, RS-232 connector.
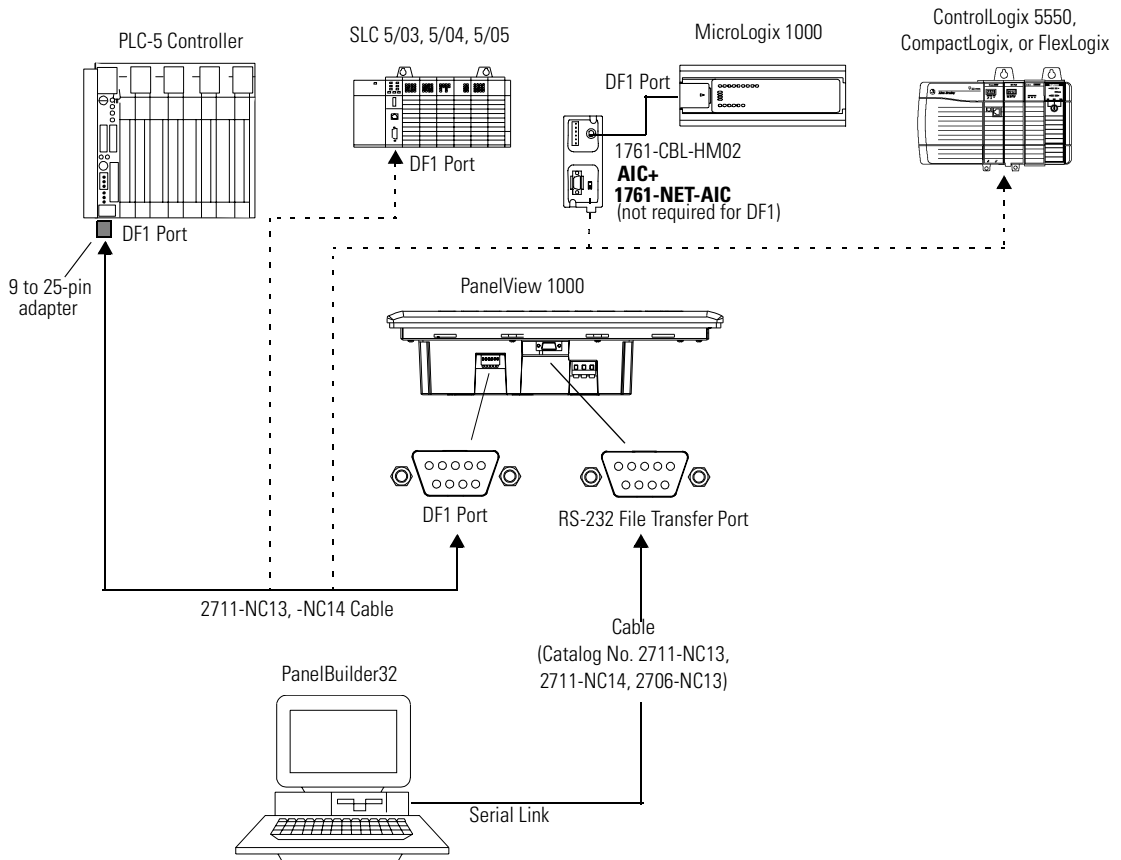
Remote I/O connections

Remote I/O versions of the PanelView terminal have both an RIO adapter and an RS-232 file transfer/printer port. The RIO adapter allows the terminal to connect to any 1771 Remote I/O link. The PanelView connects to an RIO scanner using cable (Catalog No. 1770-CD, equivalent to Belden 9463).

Node 2
PanelView 1000 RS-232
Terminal Shown

ControlLogix 5550
RIO Module (1756-DHRIO)

RIO Port

Node 1
SLC Controller with
Scanner   Module
(Catalog No. 1747-SN)

Node 1
PLC-5 Controller

RIO Port

RS-232 Port

Remote I/O Port
3-Pin Terminal Block Connector

RIO Port

Cable
Catalog No. 1770-CD
(Belden 9463)

Node 0
Personal Computer
PanelBuilder32

2   Clear
SH   Shield
1   Blue

To RIO Port

Clear 2
Shield SH
Blue 1

82 or 150 Ohm
termination resistor

Important: Wire with clear
insulation connects to terminal #2 of
the 3-pin Remote I/O connector.

Serial Port
(COM1 or COM2)

Cable
(Catalog No. 2711-NC13,
2711-NC14, 2706-NC13)

DH+ connections

DH+ versions of the PanelView terminal have a DH+ Communications Port and an RS-232 file transfer/printer port. Connect the PanelView to a DH+ link using Belden 9463 twin-axial cable (Catalog No. 1770-CD).
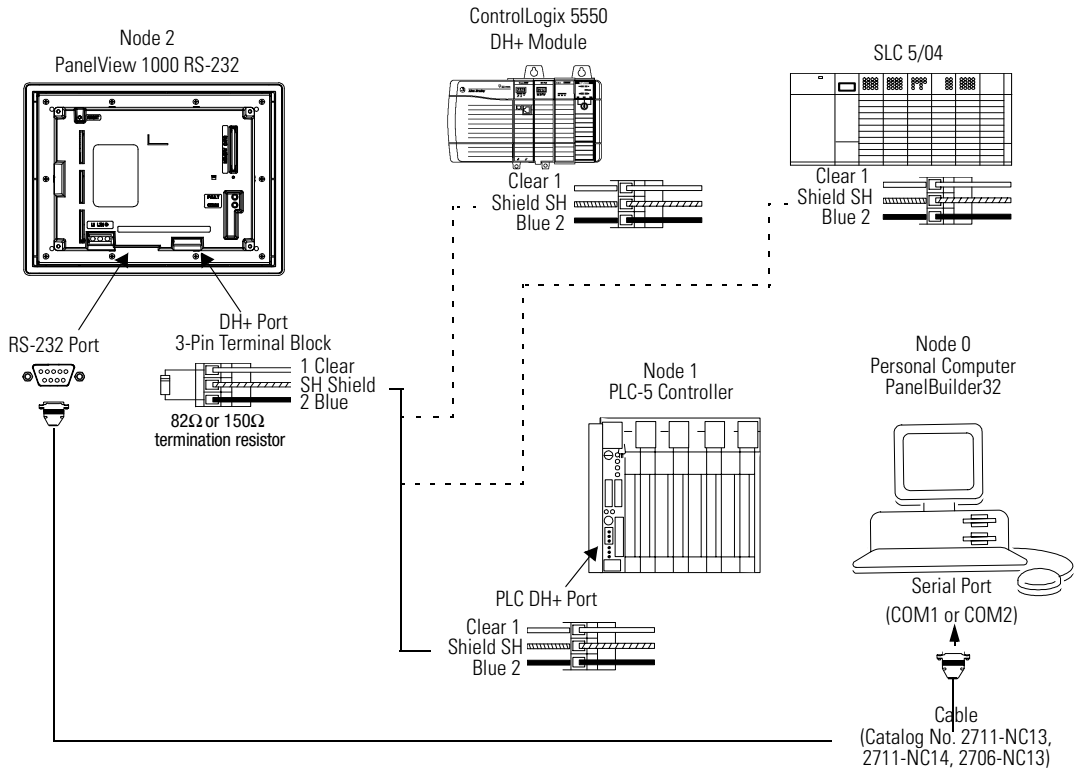
DeviceNet connections

DeviceNet versions of the PanelView terminal have a DeviceNet Communications Port and an RS-232 Port for file transfers/printing. Connect the PanelView to a DeviceNet link using DeviceNet cable (Catalog No. 1485C-P1A50, -P1A150, -P1A300). The illustration shows an SLC or PLC controller. Another option would be a ControlLogix controller with a 1756-DNB module.
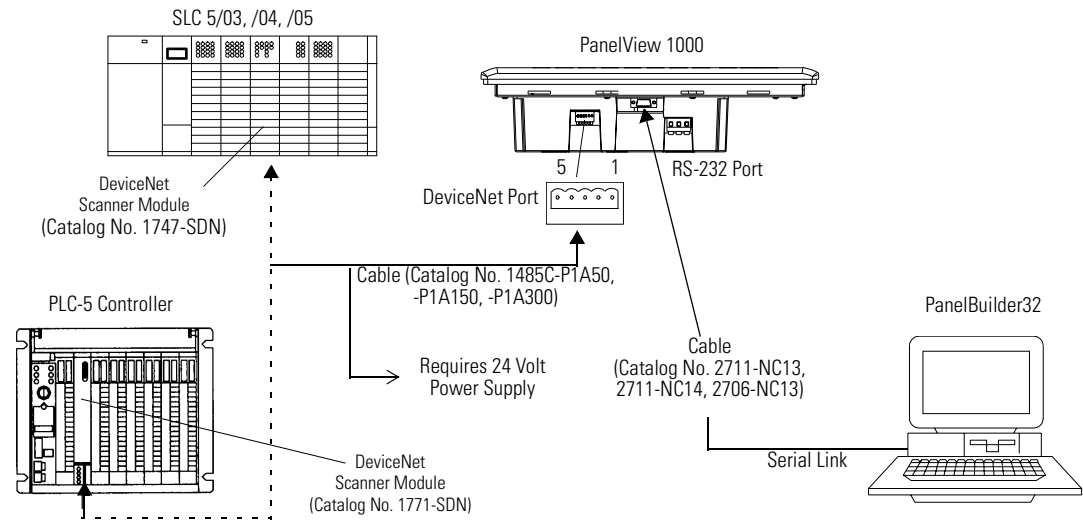
DeviceNet Terminal Block	Terminal	Signal	Function	Color
	1	COM	Common	Black
	2	CAN_L	Signal Low	Blue
	3	SHIELD	Shield	Uninsulated
	4	CAN_H	Signal High	White
	5	VDC+	Power Supply	Red

ControlNet connections

ControlNet versions of the PanelView terminal have both a ControlNet Communications Port and an RS-232 port for file transfers/printing. Connect the PanelView to a ControlNet link using BNC Coaxial Cable (Catalog No. 1786-RG6).
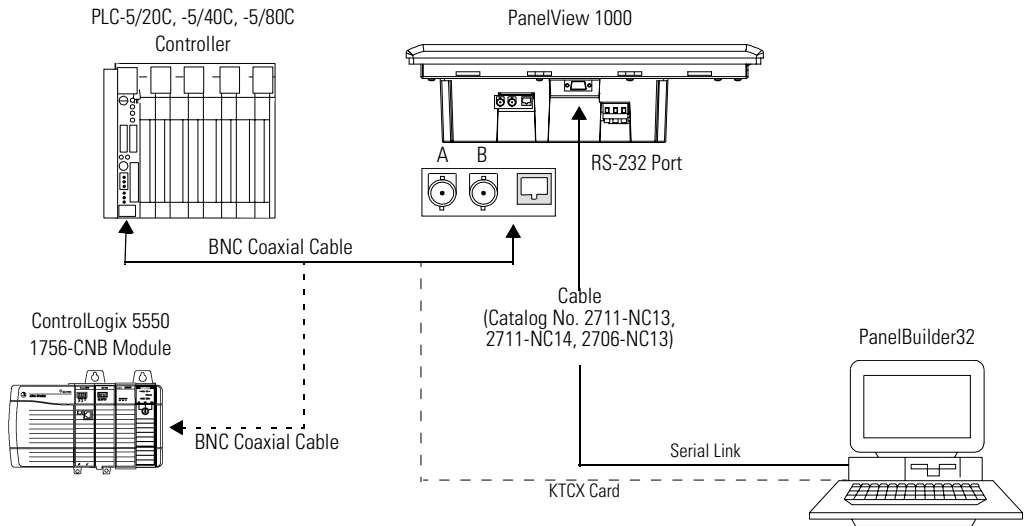
EtherNet/IP connections

EtherNet/IP versions of the PanelView terminal have both an Ethernet port and an RS-232 port for file transfers/printing. Connect the PanelView to a ControlLogix (with 1756-ENET/B or ENBx module), PLC-5E, or SLC 5/05 controller. The EtherNet/IP network uses a Category 5 shielded and non-shielded twisted-pair cable with RJ45 connectors.

PanelView Standard Terminal
10.0.0.2

ControlLogix 5550 Controller

PanelBuilder32

1756-ENET/B
10.0.0.1

Switch

Serial Link

Cable
(Catalog No. 2711-NC13,
2711-NC14, 2706-NC13

OR

PLC-5E Controller
10.0.0.1

OR

SLC 5/05 Controller
10.0.0.1
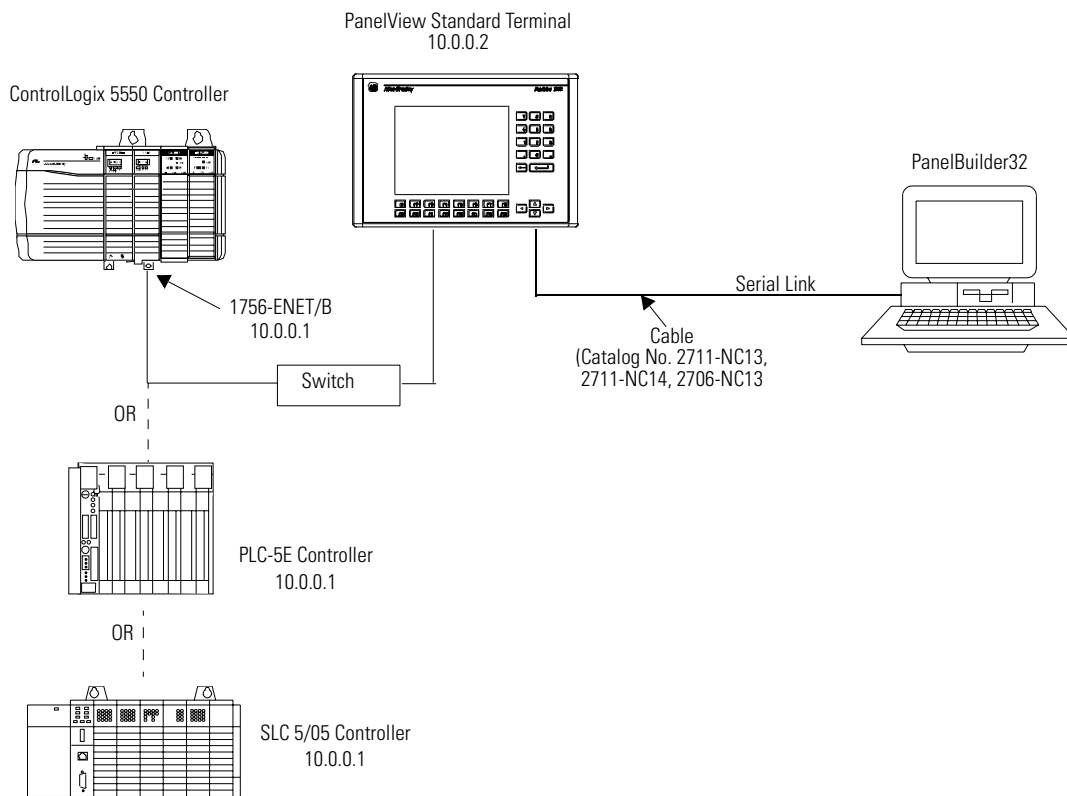
Modbus connections

Modbus versions of the PanelView terminal have both a Modbus Communications Port and an RS-232 File/Transfer Printer Port. The following illustrations shows a Modbus PanelView terminal connected to a MicroLogix controller using cable 2711-NC21 or -NC22.

MicroLogix 1200/1500 Series C

Cable
Catalog No. 2711-NC21 or -NC22
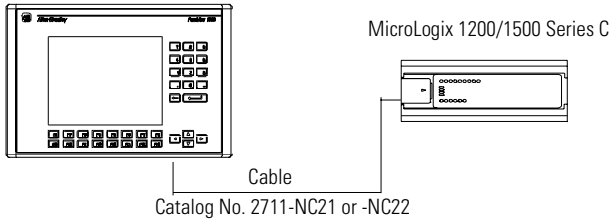
Controller ladder logic

The controller logic programs for running the sample application are already created for you. The files are provided on the PanelBuilder32 installation CD. Refer to Appendix A for a list of these files.

Overview of application

This chapter covers:

- purpose of application
- overview of application screens
- application tags

Purpose of application

The application contains objects that control and monitor the status of a motor. Depending on the communication protocol used, the PanelView terminal reads/writes data to either:

- SLC, MicroLogix, FlexLogix or CompactLogix controller on a DH-485 network
- SLC, PLC-5, or ControlLogix controller on a DH+ network
- SLC, PLC-5 or ControlLogix controller on a Remote I/O network
- SLC, PLC-5, MicroLogix, FlexLogix, CompactLogix, or ControlLogix controller on an RS-232 (DF1) network
- ControlLogix, PLC-5, or SLC controller on a DeviceNet network
- ControlLogix or PLC-5C controller on a ControlNet network (unscheduled)
- ControlLogix controller on a ControlNet network (scheduled)
- ControlLogix, PLC-5E, or SLC 5/05 controller on an EtherNet/IP network
- MicroLogix 1200/1500 Series C on a Modbus network

Chapter 4 give procedures for creating the application on a PanelView 600 keypad terminal.

- If creating the application for a touch screen terminal, touch cell input is automatically enabled and you do not have to assign function keys.
- If creating the application for other size terminals, use the appropriate text sizes.

You can create any of the sample applications for another PanelView terminal size. For instructions on how to do this, see page 45.

All of the sample applications are on the installation CD in the \QuickStart\PV directory.

Application screens

The application contains 3 screens:

- **Motor Status** - contains objects to start or stop a motor, show the on/off status of the motor, and display the current motor speed.
- **Set Motor Speed** - contains a numeric entry object allowing you to enter a maximum speed for the motor.

  If the motor speed is changed, the new speed won't take effect until the motor is stopped and started again.

- **Alarm Banner** - global display that opens over the Motor Status or Set Motor Speed screen when an alarm is triggered.

The Motor Status and Set Motor Speed screen each contain a screen button allowing you to navigate between the two screens.

If you want the operator to access the Configuration Mode menu from a touch screen terminal, you should include a Goto Config screen button on the application screen. On keypad only terminals, press the left ⬅ and right ➡ arrow keys simultaneously on the terminal's keypad to display the configuration menu.

Motor Control and Status screen

The Motor Status screen appears when you apply power to the terminal. It allows you to:

- start or stop a motor
- view the on/off status of the motor
- view the speed of the motor
- navigate to the Set Motor Speed screen
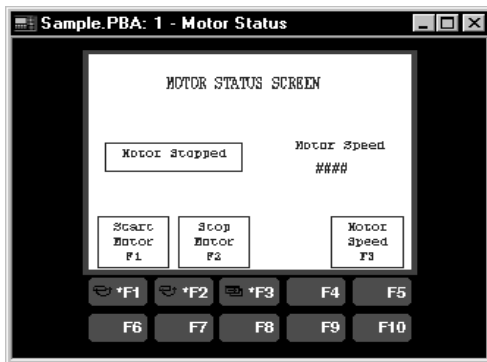
The following table lists the objects on the Motor Status screen and their functions. Screen headings are created as background text.

Object	Object Type	Function
Start Motor F1	Momentary Push Button (Normally Open)	Starts the motor when you press the F1 key or touch the screen object.
Stop Motor F2	Momentary Push Button (Normally Open)	Stops the motor when you press the F2 key or touch the screen object.
Motor Running / Motor Stopped	Multistate Indicator	Shows the on/off status of the motor.
Motor Speed ####	Numeric Data Display	Shows the current motor speed.
Motor Speed F3	Goto screen button	Displays the Set Motor Speed screen when you press the F3 key or touch the screen object.

Set Motor Speed screen

The Set Motor Speed screen allows you to:

- enter a maximum speed setting for the motor
- navigate to the Motor Status Screen
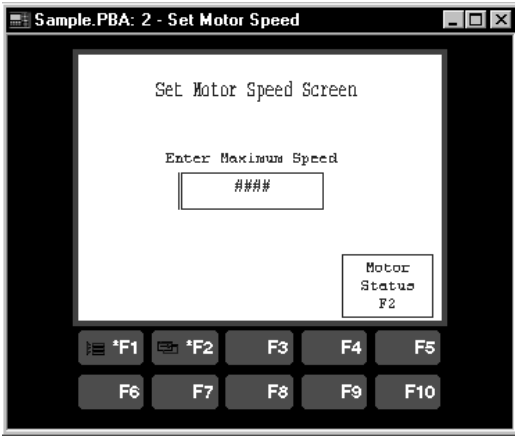
The following table lists the objects on the Set Motor Speed screen and their functions. The screen heading and object labels are created as background text.

Object	Object Type	Function
Enter Maximum Speed: #### rpm	Numeric Entry	Opens the numeric scratchpad (when you press the F1 key or touch the screen object) where you enter the maximum motor speed (600 to 1800 RPM).
Motor Status F2	Goto Screen Button	Displays the Motor Status screen when you press the F2 key or touch the screen object.

Alarm Banner

The Alarm Banner is a global display that opens over the Motor Status or Set Motor Speed screen when an alarm is triggered. It displays an alarm message when the motor speed exceeds 1200 rpm and another message when the motor speed exceeds 1500 rpm.
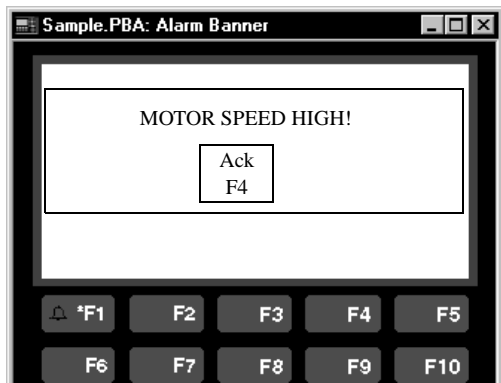
The following table lists the objects on the Alarm Banner and their functions.

Object	Object Type	Function
MOTOR SPEED HIGH! MOTOR SPEED HIGH-HIGH!	Alarm Text	Displays messages when the motor speed reaches 1200 rpm and 1500 rpm.
Ack F4	Acknowledge Alarm Button	Acknowledges the alarm in the alarm banner when you press the F4 key or touch the screen object.

Application tags

The sample application requires only 6 tags. Tags are a group of parameters that define a controller address. Each tag is identified by a unique name.

These are the tags that are used in this application. Notice how the tags are assigned descriptive names. This makes it easier to create and modify an application.

- **Start_Motor** - assigned to the motor start button
- **Stop_Motor** - assigned to the motor stop button
- **Motor_Status_Ind** - assigned to the motor status indicator
- **Motor_Speed** - assigned to the motor speed data display
- **Set_Max_Motor_Speed** - assigned to the data entry display for motor speed
- **Speed_Alarm** - assigned to the trigger for the alarm banner

Tag information is entered using either:

- **Tag Form dialog** - accessed from an object's dialog by clicking the **Edit Tags** button. Allows editing of all tag fields.
- **Tag Editor** - accessed from the **Tools** menu or the System folder in the Application window.   The tag editor displays all of the assigned tags within the application and allows editing of most tag fields.

Each application requires slightly different tag information depending on the communication protocol. Chapters 4 and 5 provide the information you need for each terminal type along with instructions for entering tags.

Creating the application

Follow the procedures in this chapter to:

- create the application screens (Motor Status, Set Motor Speed, Alarm Banner)
- select the startup screen for the application
- save the application

Starting PanelBuilder32

Click **Start** on the taskbar, then select **Programs>PanelBuilder32>PanelBuilder32**.
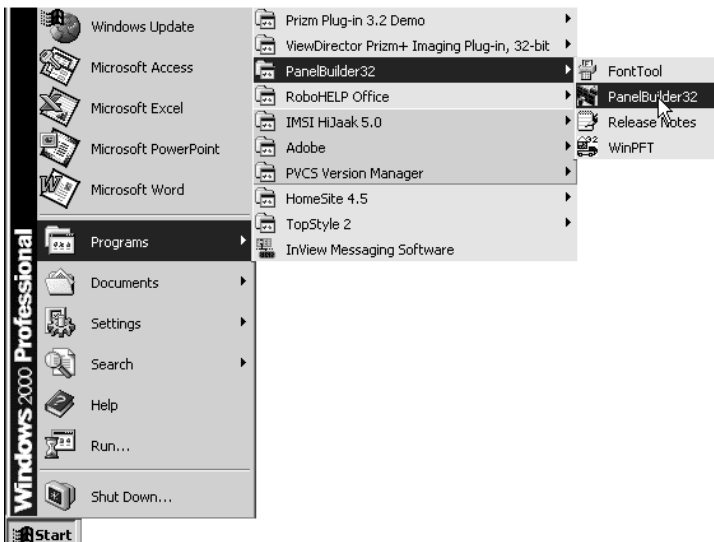
The PanelBuilder32 workspace opens with the startup dialog.

Creating a new application

1. From the startup dialog, select **Create a new application** and click **OK**.

2. In the **Create New Application** dialog, enter a name for your application and select a PanelView terminal (type, protocol and type of operator input)

.

Type Sample —

Select a terminal type —

Select the type of operator input

Select a protocol
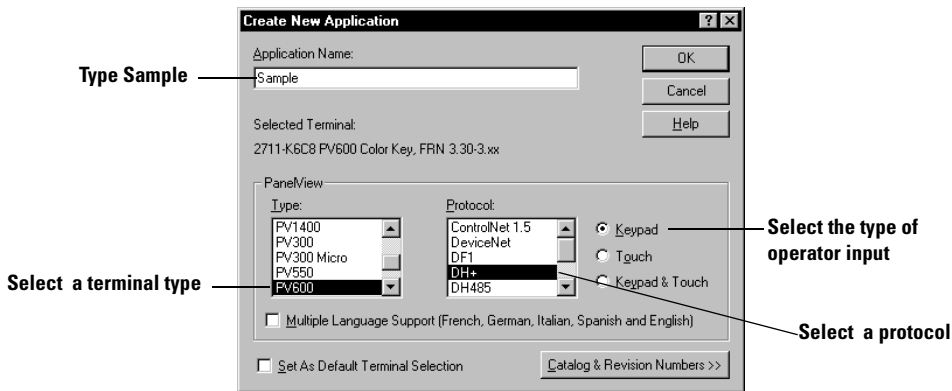
3. Click **OK** to exit the dialog.

The Application window opens showing the name of the application in the title bar. A blank screen opens with a default name and number - Screen 1.

Application window

Screens are stored in the Screens folder.
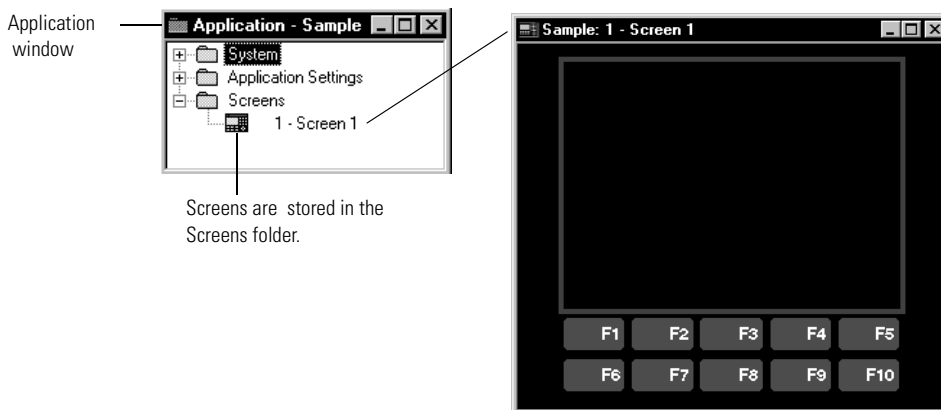
Renaming and changing the color of Screen 1

1. Select **Screen>Properties** or right-click on Screen 1 in the Screens folder and select **Properties** from the shortcut menu.

Type Motor Status
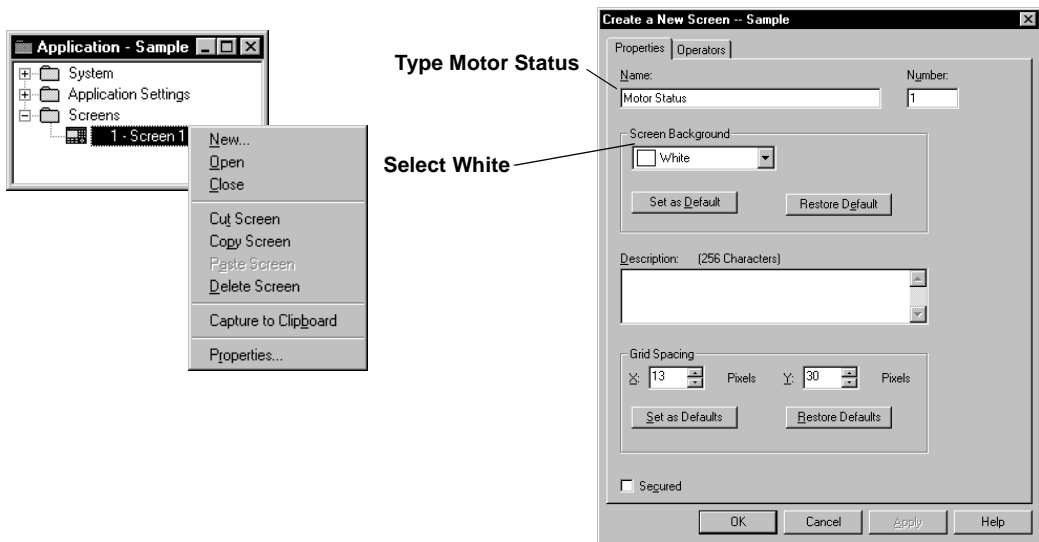
Select White

2. Type Motor Status in the **Name** field of the dialog

3. In the **Background** box, select White to change the screen background color.

4. Click **OK** to exit the dialog.

The screen's background is now white. The new screen name appears in the title bar of the screen and on the screen icon in the Screens folder.
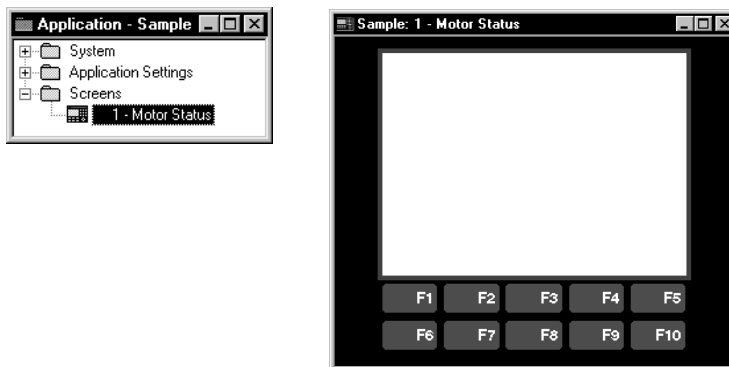
Creating the Set Motor Speed screen

1. Select **Screen>New** or right-click on the Motor Status screen in the Screens folder and select **New** from the shortcut menu.

Type Set Motor Speed

Select White
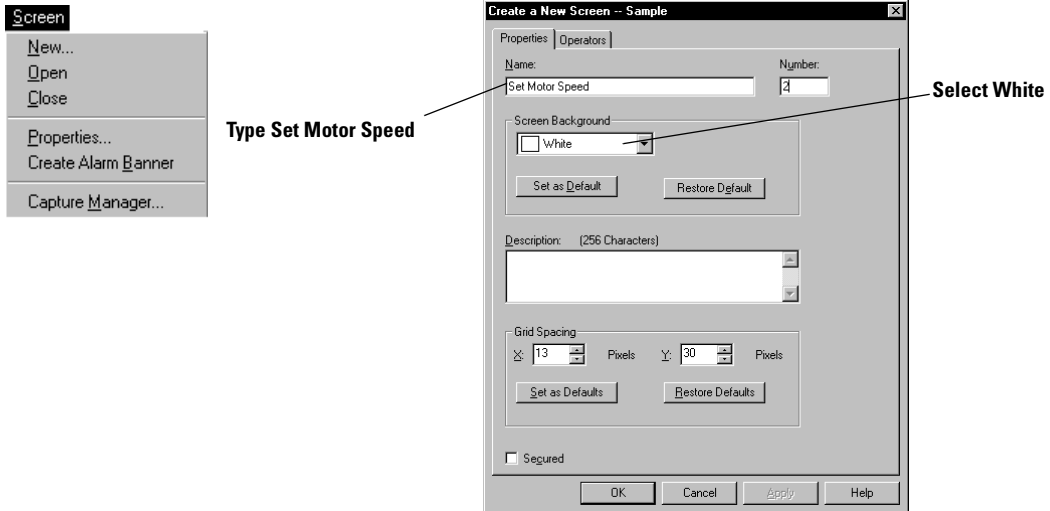
2. Enter screen properties as shown above.

3. Click **OK** to exit the dialog.

A blank screen is opened with the screen name and number showing in the title bar. The Application Window also contains an icon for the new screen.
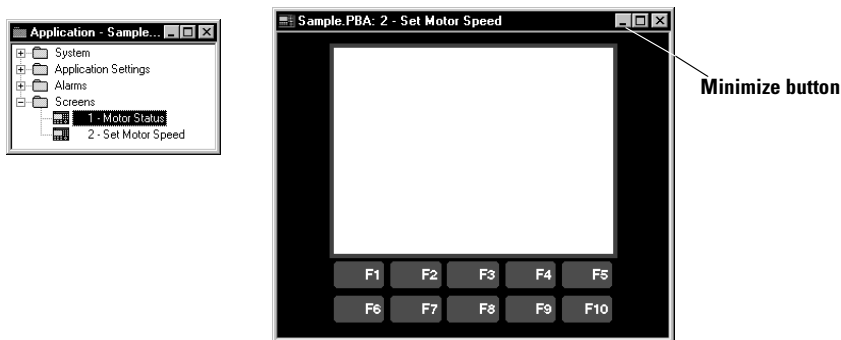
Minimize button

4. Click the Minimize button on the Set Motor Speed screen to reduce the window while you work on the Motor Status screen.

Creating objects on the Motor Status screen
Creating the Start Motor push button
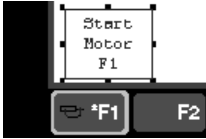
1. Select **Objects>Push Buttons>Momentary**.
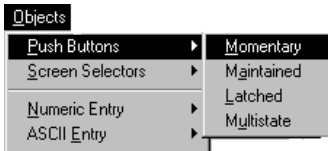
2. Position the pointer (+) in the lower left of the screen where you want to draw the button, hold down the left mouse button and drag to size the button.

3. Double-click the object to open its dialog and set the properties as shown below.
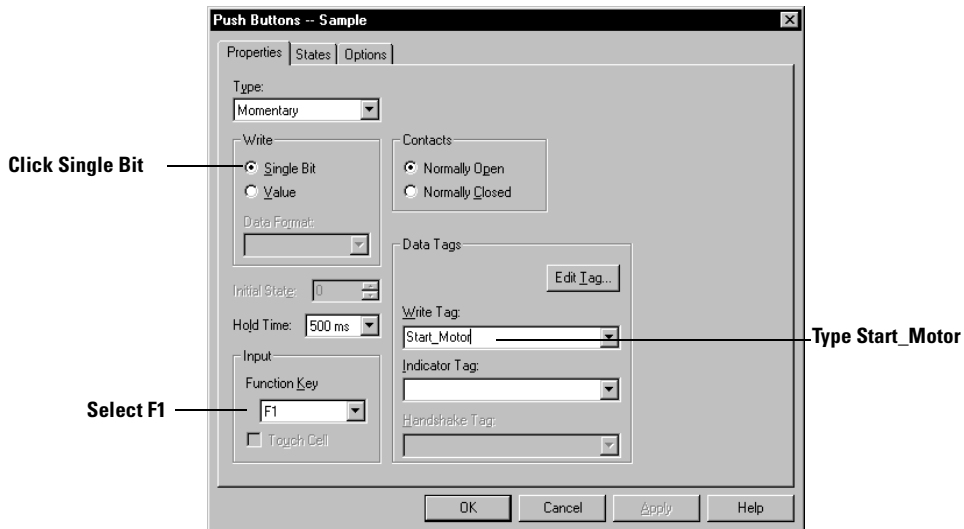
Note: You will enter definitions for tags in Chapter 5.

4. Click the **States** tab of the Push Buttons dialog.

Each row defines text and formatting options for a push button state. Row 0 is state 0, row 1 is state 1. The default text for a 2-state push button is ST 0 and ST 1.
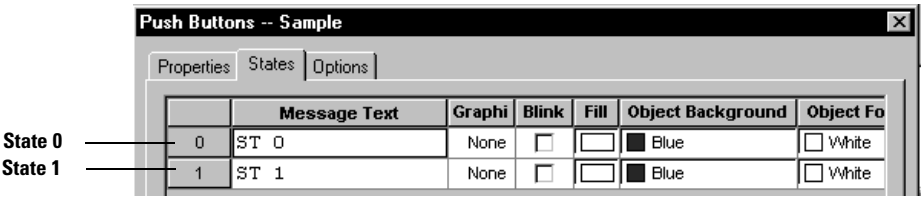
5. Double-click in the Message Text field of each row and change the text as shown below. Also, change the default colors for the object and text.

Press Enter to start a new line. /*R*/ indicates a return.

Select **White** for Object Background

Select **Blue** for Object Foreground

Select **White** for Text Background

Select **Blue** for Text Foreground
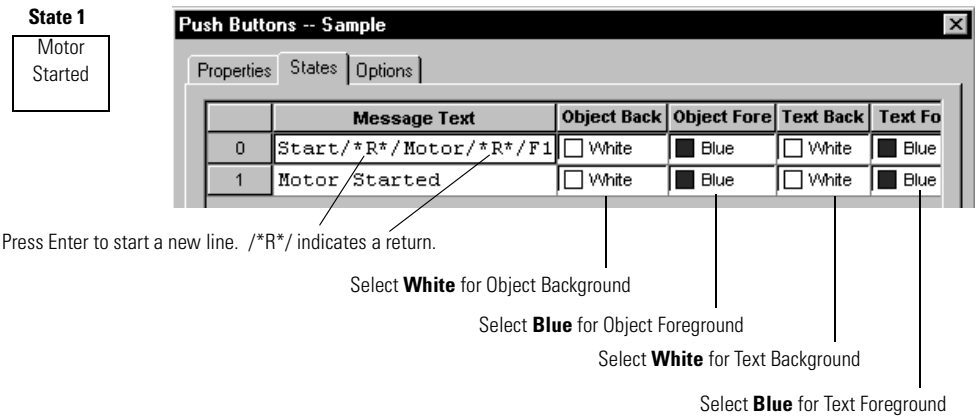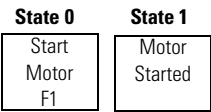
6. Click **OK** when done to exit dialog. The F1 key shows an icon of the push button indicating the key is assigned to an object.

If you see an asterisk (*), the object is too small to fit the text. Click on the object and drag a handle until all of the text fits.
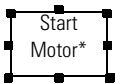
Creating the Stop Motor push button
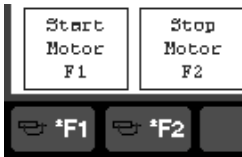
The F1 and F2 keys both have icons showing they are currently assigned to objects.

The Stop Motor push button is created using copy and paste commands.

1. Select (left-click on) the Start Motor button (if not selected).

2. Select **Edit>Copy** or click the **Copy** tool on the toolbar.

3. Select **Edit>Paste** or click the **Paste** tool on the toolbar.
An outline of the button appears.

4. Move the outline to the right of the Start Motor push button and click the left mouse button to paste it on the screen.
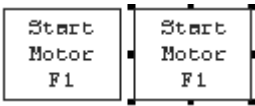
5. Double-click the pasted button to open its dialog and set the following properties.

Select F2

Replace Start_Motor with Stop_Motor

6. Click the **States** tab of the Push Buttons dialog.

	Message Text	Object Back	Object Fore	Text Back	Text Fo
0	Start/*R*/Motor/*R*/F1	☐ White	■ Blue	☐ White	■ Blue
1	Motor Started	☐ White	■ Blue	☐ White	■ Blue

Push Buttons -- Sample

Properties | States | Options
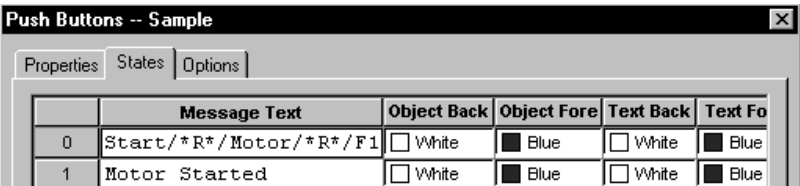
7. Double-click in the Message Text field of each state and replace the text as shown below.

State 0
Stop
Motor
F2

State 1
Motor
Stopped

Push Buttons -- Sample

Properties | States | Options

	Message Text	Object Back	Object Fore	Text Back	Text For
0	Stop/*R*/Motor/*R*/F2	☐ White	■ Blue	☐ White	■ Blue
1	Motor Stopped	☐ White	■ Blue	☐ White	■ Blue
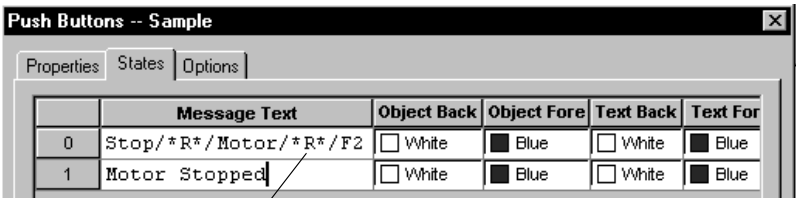
Remember, /*R*/ indicates a carriage return.

8. Click **OK** to exit the dialog.

Creating the Motor Speed screen button

Goto Screen Button
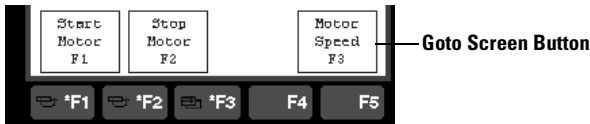
1. Select **Objects>Screen Selectors>Goto**.
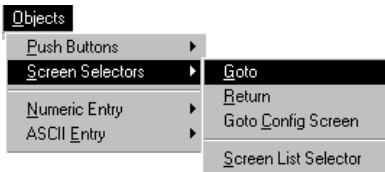
2. Position the pointer (+) in the lower right area of the screen where you want to draw the button. Hold down the left mouse button and drag to size the button.

3. Select **Format>Toggle Fore/Background** to reverse the object colors.

4. Select **Format>Inner Text** or click the **Inner Text** tool.

The Inner Text toolbar opens showing the default text for the button.

Hint: Click the Down Arrow at the right of the Text box to edit the text in a Text Edit dialog.

5. Replace the default text as shown below. As you replace the text it is also entered in the object.
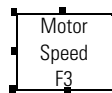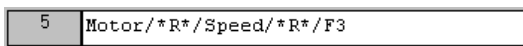
6. Click anywhere outside the object to exit inner text mode.

The F3 key now shows an icon to show it is assigned to an object.

7. Double-click the Motor Speed screen button.

8. Select the properties as shown below.

Select Set Motor Speed

This is the screen that displays when the operator presses the F3 key on the Motor Status screen.
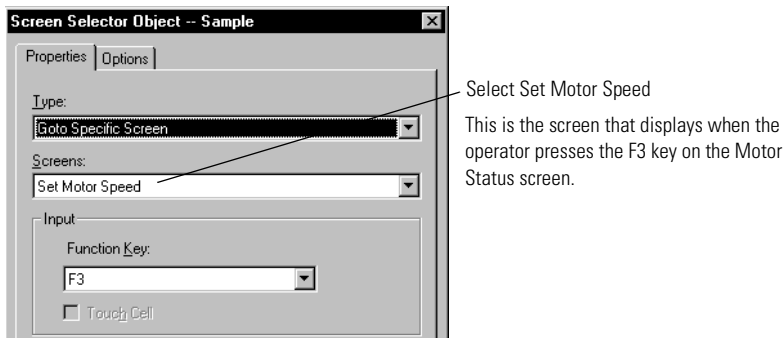
9. Click **OK** to exit the dialog.

Creating the Motor Speed display

Text

Numeric Data Display
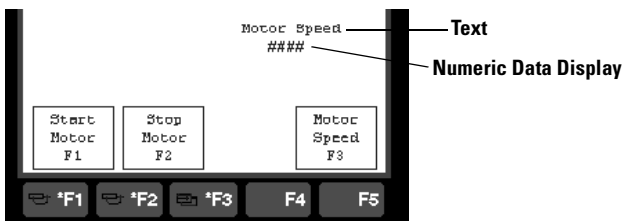
1. Select **Objects>Numeric Data Display**.

2. Position the pointer (+) above the Motor Speed screen button. Hold down the left mouse button and drag to size the button.

The object is created with ###### characters as a placeholder for the numeric value. Each # represents a digit. The initial field width is 6 digits.

3. Select **Format>Toggle Fore/Background** to reverse the object colors.

4. Double-click the object to opens its dialog. Enter properties as shown below.

Numeric Data Display -- Sample.PBA	

Properties | Options

Digits

Field Width: 4 ——————— **Select 4**

Edit Tag...

☐ Fill with Zeroes.

Decimal Point

◉ Fixed Point

Position: 0

◯ Floating Point

Read Tag:

Motor_Speed ——————— **Type Motor_Speed**
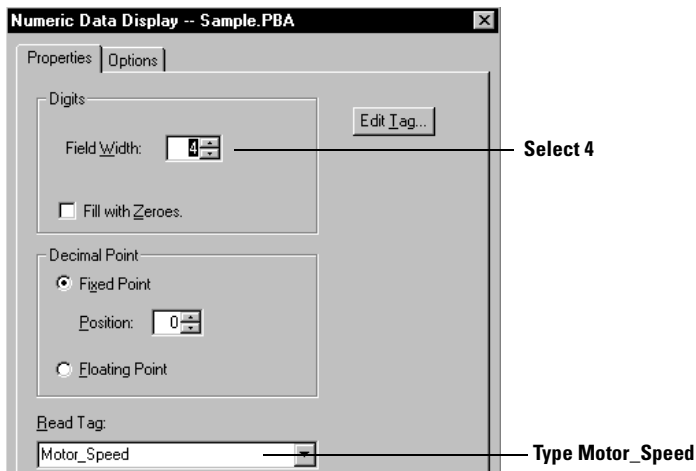
5. Click **OK** to exit the dialog.

The object now shows four #### characters as the maximum field width for the numeric value.

6. Select **Objects>Text** to create the label Motor Speed above the object.

7. Position the pointer (+) above the numeric data display, hold down the left mouse button and drag to draw the text box. You are placed in text mode.

8. Enter the text as shown below. As you enter the text it also entered in the object.

7	Motor Speed	▼	𝐀̇ 𝐀 𝐀	𝐀̇

9. Click the **Toggle Fore/Background** icon to reverse the text colors.

Creating the Motor Status indicator

Motor Stopped

Motor Speed
####

Multistate Indicator
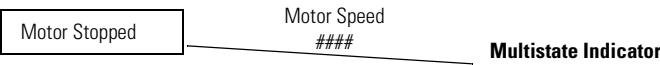
1. Select **Objects>Indicator>Multistate**.

Objects
Push Buttons
Screen Selectors
Numeric Entry
ASCII Entry
Control List Selectors
Indicators ▶ Multistate
List

ST 0
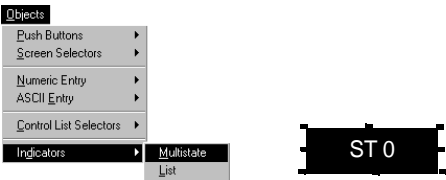
2. Position the pointer (+) above the Start and Stop Motor push buttons, hold the left mouse button and drag to size the button.

3. Select **Format>Toggle Fore/Background** to reverse the object colors.

4. Double-click the object to open its dialog and then click the **States** tab.

Each row defines text and formatting options for each indicator state. Row 0 is state 0, row 1 is state 1. The default text for a multistate indicator is ST 0, ST 1, ST2, ST3. Indicators are initially created with 4 states (ST 0 - ST 3).

5. Select rows 2 and 3. (Select row 2, hold down the Shift key and click row 3). Right-click and select **Delete State** from the shortcut menu.

State 0

State 1

Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Insert and Paste	Ctrl+N
Append State	Ctrl+A
Insert State	Ins
Delete State	Del
Move State Up	Ctrl+U
Move State Down	Ctrl+D
Select All	Ctrl + L
Embedded Variable	▶
Use Existing Text...	
New Text ID	

Multistate Indicator -- Sample.PBA

Properties | States | Options

	Message Text	Graphic	Blink	Fill	Object Background	Object Foreground	T
0	ST 0	None	☐		■ Blue	☐ White	■ Blue
1	ST 1	None	☐		■ Blue	☐ White	■ Blue
2	ST 2	None	☐		■ Blue	☐ White	■ Blue
3	ST 3	None	☐		■ Blue	☐ White	■ Blue
E	Error	None	☐		■ Blue	☐ White	■ Blue

Multistate Indicator -- Sample.PBA

Properties | States | Options

	Message Text	Graphic	Blink	Fill	Object Background	Object Foreground	T
0	ST 0	None	☐		■ Blue	☐ White	■ Blue
1	ST 1	None	☐		■ Blue	☐ White	■ Blue
E	Error	None	☐		■ Blue	☐ White	■ Blue

6. Double-click in the Message Text field of row 0 and 1 and change the text as shown below.

State 0

Motor Stopped

State 1

Motor Running

Multistate Indicator -- Sample.PBA									☒

Properties   States   Options

		Message Text	Graphic	Blink	Fill	Object Background	Object Foreground	Text Ba
	0	Motor Stopped	None	☐		■ Blue	☐ White	■ Blue
	1	Motor Running	None	☐		■ Blue	☐ White	■ Blue
	E	Error	None	☐		■ Blue	☐ White	■ Blue

Error State- If an error state occurs no state is highlighted.
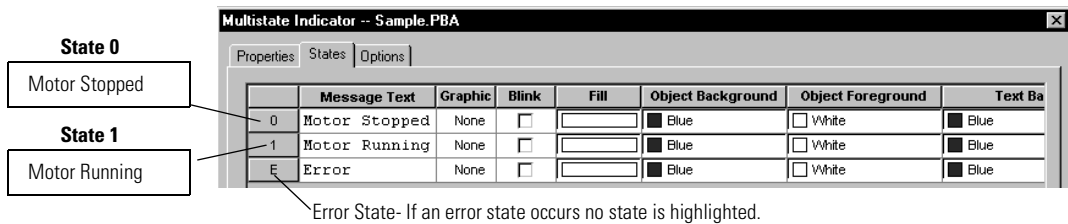
7. Click the **Properties** tab and set the properties as shown below.

Multistate Indicator -- Sample.PBA	☒

Properties   States   Options

Select Single Bit

Read
- ⦿ Single Bit
- ○ Least Significant Bit
- ○ Value

Data Format

Trigger State 0 When:
- ⦿ Bit = 0
- ○ Bit = 1

☐ Print

Read Tag:
Motor_Status_Ind   Edit Tag...

Type Motor_Status_Ind
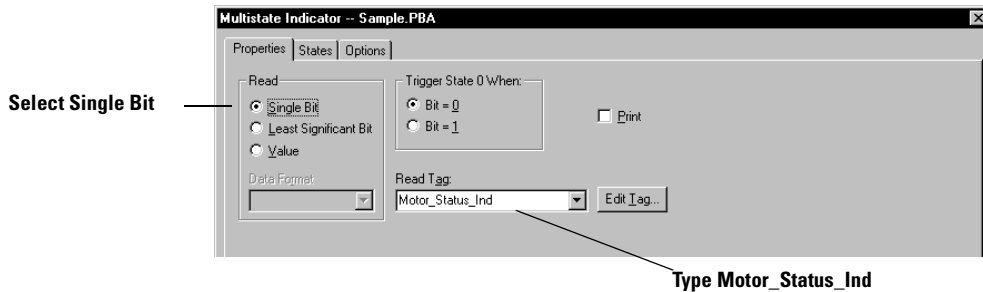
Note: Because **Single Bit** only supports 2 states (State 0 and State 1), you must delete the extra states on the **States** tab before selecting **Single Bit** on the **Properties** tab.

8. Click **OK** to exit the dialog.

Creating the screen title for the Motor Status screen
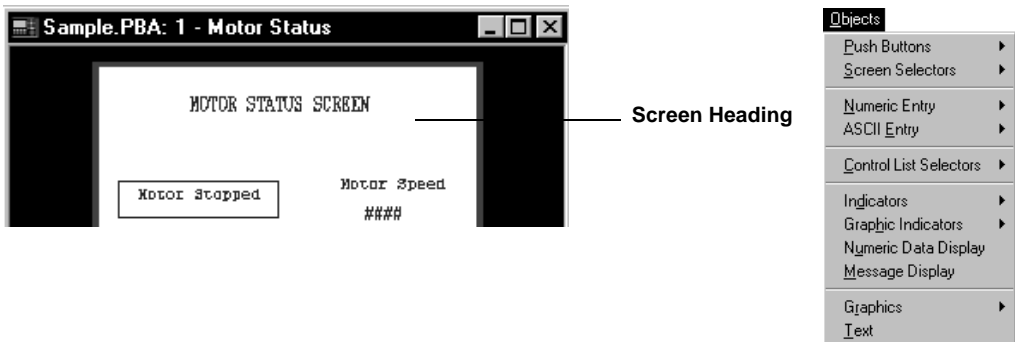
Screen Heading

1. Select **Objects>Text**.

2. Position the pointer (+) at the top of the screen, hold down the left mouse button and drag to draw the text box. You are placed in text mode.

3. Enter the text as shown below. As you enter the text it also entered in the text box.

4. Click the **Toggle Fore/Background** tool to reverse the foreground and background colors of the object.

5. Click the **Text Size** tool and select 8 x 24 from the menu.

6. Deselect the object by clicking anywhere outside the object.

Hint: An asterisk appears (*) if the text box is too small for the text. Select the object and then drag a handle to size the text box until the text fits.

IMPORTANT	Select **Arrange>Bring Dynamic Objects to Front** to move control objects to the front of other objects. This ensures that control objects are not covered by static objects such as text.

Creating objects on the Set Motor Speed screen

Creating a numeric entry object for setting the motor speed

Numeric Entry Cursor Point
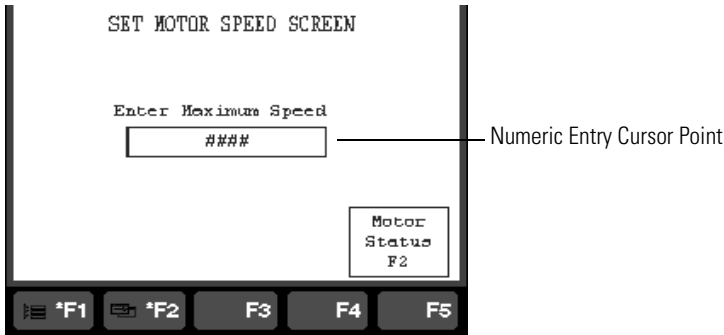
1. Open the Set Motor Speed screen (Screen 2) by clicking on the title bar of the minimized screen.

2. Select **Objects>Numeric Entry>Cursor Point**.
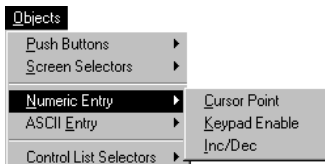
3. Position the pointer (+) in the middle of the screen, hold down the left mouse button and drag to draw the object.

The object is created with six ###### characters as a placeholder for the numeric value. Each # represents a digit. The initial field width is 6 digits.

4. Select **Format>Toggle Fore/Background** to reverse the object colors.

5. Double-click the object and set the properties as shown below.

Type Set_Max_Motor_Speed
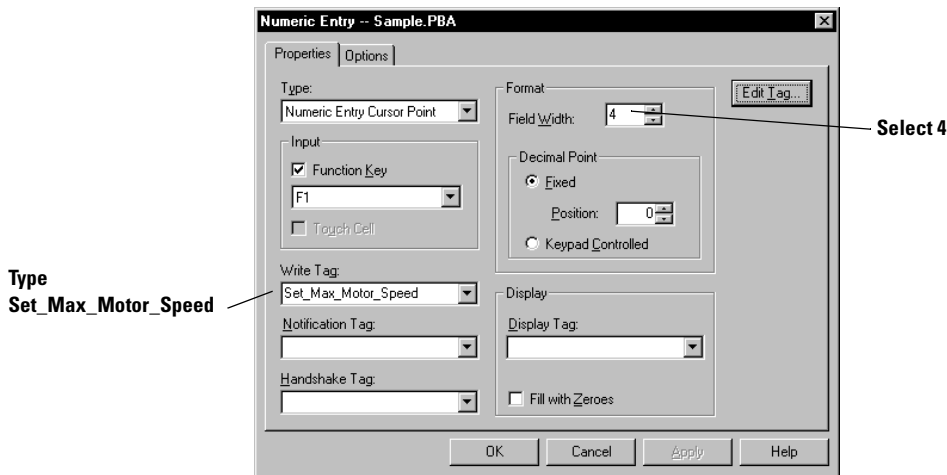
Select 4

6. Click **OK** to close the dialog.

The object shows four #### characters as the maximum field width for the numeric value.

7. Select **Objects>Text**.

8. Position the pointer (+) above the numeric entry object, hold down the left mouse button and drag to draw the text box. You are placed in text mode.

9. Enter the text as shown below. As you enter the text it is also entered in the text box.

| 15 | Enter Maximum Speed | ▼ | Aͨ **A** **Aͨ** | **A͓** |

10. Click the **Toggle Fore/Background** tool to reverse the foreground and background colors of the object.

11. Deselect the object by clicking anywhere outside the object.

Hint: An asterisk (*) appears if the text box is too small for the text. Select the object and then drag a handle to size the text box until the text fits.

Creating the Motor Status screen button

The Motor Status screen button is created by copying the Motor Speed screen button from screen 1 and then editing the button properties.

1. Select the Motor Speed screen button on the Motor Status screen. (Click anywhere in the Motor Speed screen to activate the screen.)

2. Select **Edit>Copy** or click the **Copy** tool on the toolbar.

3. Click in the Set Motor Speed screen, or screen 2.

4. Select **Edit>Paste** or click the **Paste** on the toolbar.
   An outline of the button appears.

5. Move the object to the lower right of the screen and click the left mouse button to paste it.

6. Click the **Inner Text** tool to edit the text in the button. Replace the current text with the new text as shown below.

16	Motor/*R*/Status/*R*/F2

— Edit text to look like this.

7. Double-click the object to open its dialog.

Select Goto Specific Screen

Select Motor Status

This is the screen that displays when the operator presses the F2 key on the Set Motor Speed screen.
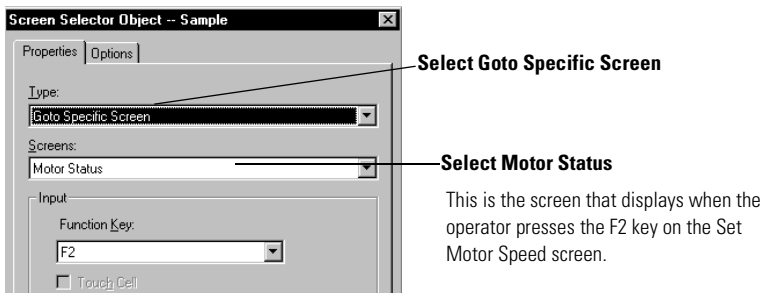
8. Click **OK** to exit the dialog.

Creating the screen title for the Set Motor Speed screen

1. Select **Objects>Text**.

2. Position the pointer (+) at the top of the screen, hold down the left mouse button and drag to draw the text box. You are placed in text mode.

3. Enter the text as shown below. As you enter the text it also entered in the text box.

| 15 | Enter Maximum Speed| | ▼ | A̋ A̲ A̲ | A̋ |

4. Click the **Toggle Fore/Background** tool to reverse the foreground and background colors of the object.

5. Click the **Text Size** tool and select 8 x 24 from the menu.

6. Deselect the object by clicking anywhere outside the object.

   Hint: An asterisk (*) appears if the text box is too small for the text. Select the object and then drag a handle to size the text box until the text fits.

> **IMPORTANT**   Select **Arrange>Bring Dynamic Objects to Front** to move control objects to the front of other objects. This ensures control objects are not covered by static objects such as text.

Creating a Goto Config Screen button

This section applies to touch screen only terminals. If you are creating the sample application for a keypad terminal, skip this section.

To allow an operator access to the touch screen only terminal's configuration mode menu, a Goto Config Screen button is required.

1. Select **Objects>Screen Selectors>Goto Config Screen.**

2. Position the pointer (+) to the left of the screen button on each screen. Hold down the left mouse button and drag to draw the object.

3. Select **Format>Toggle Fore/Background** to reverse the object colors.

| Start Motor | Stop Motor | Goto Config Screen | Motor Speed |

Motor Status Screen

| Goto Config Screen | Motor Status |
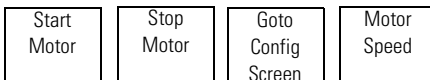
Set Motor Speed Screen

Creating the alarm banner and messages

In this section, you will create:

- alarm banner that opens over the current screen when an alarm is triggered. The banner will contain a message display and an Acknowledge button.
- alarm trigger tag defining the address where the controller writes a bit to trigger an alarm.
- alarm messages to appear in the alarm banner when an alarm is triggered

Creating the alarm banner

1. Select **Screen>Create Alarm Banner**.

The Alarm Banner is created in the Screens folder. The default banner appears with a message display and a Clear button.
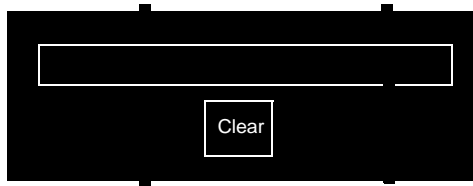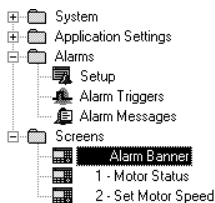
On color terminals, the background color is red, the foreground color is white. On monochrome terminals, the background is white and the foreground black.

2. Decrease the height of the banner by clicking on the bottom handle and drag up.

3. Deselect the banner by clicking outside the banner.

4. Click on the Clear button and then select **Edit>Cut** or the **Cut** tool.

5. Select **Objects>Alarm Buttons>Acknowledge**.

6. Position the pointer (+) in the banner and left-click to drop the object.

7. Double-click the Ack button to open its dialog. Select the F4 key.
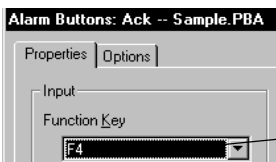
Select F4

8. Click **OK** to exit the dialog.

9. Select **Format>Inner Text** and enter Ack/*R*/F4 in the text box.

Defining an alarm trigger

This section defines the trigger tag. When an alarm condition occurs, a value is sent to the trigger tag address.

1. Double-click the **Alarm Triggers** icon in the Alarms folder.

   Or select **Application>Alarm Setup** and select the **Alarm Triggers** tab.
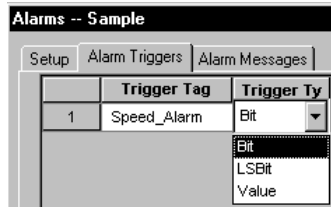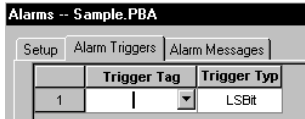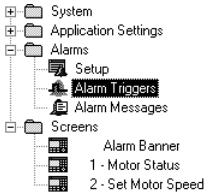
2. Type **Speed_Alarm** in the **Trigger Tag** field.

3. Select **Bit** from the **Trigger Type** field.

Defining alarm messages

1. Select the **Alarm Messages** tab on the Alarms dialog.

   Each row defines an alarm message and its attributes.
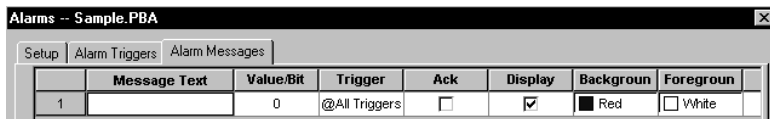
2. Right-click and select **Append Alarm** from the shortcut menu to add a row.

3. For each row, edit the following attributes shown below:
   - Double-click in the Message Text field and type the alarm message.
   - Double-click in the Value/Bit (Bit offset) field and enter the value shown.
   - Click the check box in the Ack field.

	Message Text	Value/Bit	Trigger	Ack	Display	Backgroun	Fore
1	MOTOR SPEED HIGH!	2	Speed_Alarm	☑	☑	■ Red	☐ W
2	MOTOR SPEED HIGH-HIGH!	1	Speed_Alarm	☑	☑	■ Red	☐ W

Alarms -- Sample.PBA

Setup | Alarm Triggers | Alarm Messages

Edit these fields.
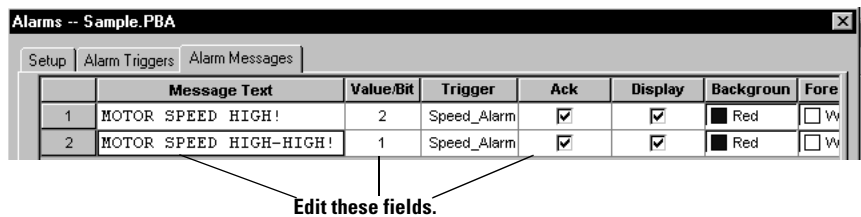
4. Click **OK** to exit the Alarms dialog.

Bit triggered alarm messages are defined by a bit offset (Value/Bit field) from the Trigger Tag address. For example, if the Trigger Tag address is defined as B3:1/0, alarm messages can be triggered from addresses B3:1/1 and B3:1/2.

- When the motor speed reaches 1200 rpm, the logic controller sets bit B3:1/2, triggering an alarm condition. The message MOTOR SPEED HIGH! will appear in the alarm banner.

B3:1/0	**+**	**2**	**=**	**B3:1/2**
Trigger Tag Address		Value/Bit of Alarm Message		Logic Controller Address

- When the motor speed reaches 1500 rpm, the logic controller sets bit B3:1/1, triggering an alarm condition. The message MOTOR SPEED HIGH HIGH! will appear in the alarm banner.

B3:1/0	**+**	**1**	**=**	**B3:1/1**
Trigger Tag Address		Value/Bit of Alarm Message		Logic Controller Address

Closing the screens

Close each screen by clicking the X in the title bar of the screen. Or select **Screen>Close** to close each screen.

Or select **Windows>Close all Current Application Screens** to close all screens.

Defining the startup screen for the application

1. Select **Application>Settings**.

2. Select the **Power-Up** tab.

3. From the **Startup Screen** list box, select **Motor Status**.
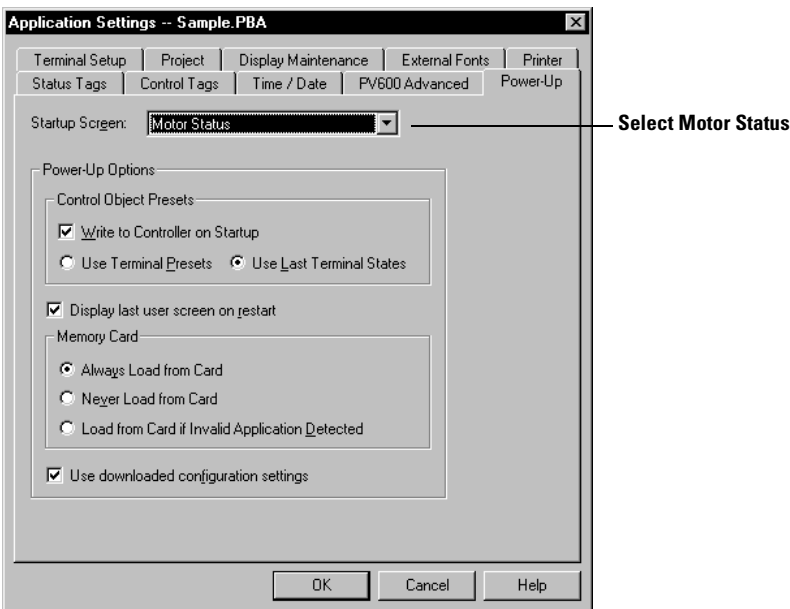
4. Click **OK** to exit the dialog.

Saving the application

  1. Select **File>Save** or click the **Save** icon on the toolbar.

The file is saved to a default location using the application name and the .PBA file type.
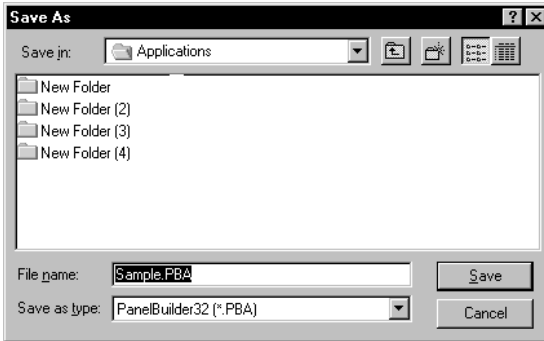
2. Click the **Save** button to exit and save the application.

File is saved to **Program Files>Allen-Bradley>PanelBuilder32>Applications**.

Hint: The next time you select File>Save the Save As dialog doesn't open. The file is saved to disk with the application name and the .PBA file type.

Converting application for another terminal type

The sample application was created for the PanelView 600 keypad terminal and is available for DH-485, DH+, DF1, Remote I/O, DeviceNet, EtherNet/IP, ControlNet and Modbus protocols. You can convert any one these applications to another terminal size such as PanelView 1000 by following the procedure below.

1. Select **Application>Settings**.

2. Click the **Setup** tab.

3. Select the PanelView terminal for which you want to convert the application.
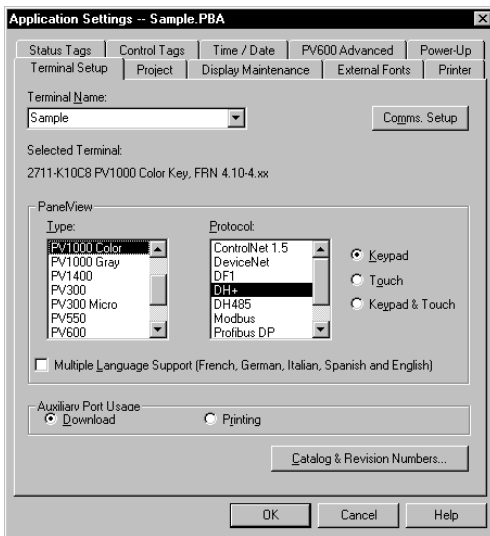
4. When you click **OK**, the application is converted and validated for any errors.

If the application is converted successfully, the Exceptions window shows the message:

[Application] Conversion Passed - No Errors Found

IMPORTANT	Depending on the terminal size, you may want to reposition and resize objects appropriately. You may also want to adjust the text sizes.

If the terminal uses a different protocol, you can select the **Convert** option on the **Edit Tag** tab of the **Tools>Options** dialog and the tag editor will convert the current tags to the appropriate fields for the new protocol. You still need to update the tag data.

Configuring communications

This chapter shows how to configure network communications for your PanelView terminal and logic controller. Configuration is provided for the following communication protocols:

- **DH-485** - configures a DH-485 PanelView Terminal and an SLC or MicroLogix controller

- **DH+** - configures a DH+ PanelView terminal and a PLC-5, SLC 5/04, or ControlLogix DH+ module.

- **Remote I/O** - configures a Remote I/O terminal and a PLC-5, SLC 5/03, 5/04 or 5/05 controller with a 1747-SN/B scanner or ControlLogix DHRIO module.

- **ControlNet** - configures a ControlNet PanelView terminal and a ControlLogix CNet module or PLC-5 controller using scheduled or unscheduled messaging.

- **DeviceNet** - configures a DeviceNet PanelView terminal to communicate as a slave device to a PLC-5, SLC, or ControlLogix with a DeviceNet module.

- **EtherNet/IP** - configures an EtherNet/IP PanelView terminal to communicate with a ControlLogix controller (with 1756-ENET/B or /ENBx module), PLC-5E or SLC 5/05 on an EtherNet/IP network.

- **DF1** - configures a DF1 PanelView terminal and a PLC-5, SLC 5/03, 5/04, 5/05, MicroLogix, or ControlLogix controller. For a ControlLogix serial port, select PLC-5 controller type.

- **Modbus** - configures a Modbus PanelView terminal and a MicroLogix 1200/1500 Series C.

Refer to the section that is appropriate for your terminal.

Configuring DH-485 communications

This section defines the communication settings for a DH-485 PanelView terminal and logic controller on a DH-485 network.

1. Select **Application>Settings**.

2. Select the **Terminal Setup** tab.

3. Click the **Comms. Setup** button and set the parameters as shown below.
To add a network node, right-click on the **Node Name** field. Enter the **Node Name**, **Node Address** and **Node Type** for the controller you are using.

Important: LC_1 is entered to match the Node name in the Tag Editor.

Select the logic controller you are using.

Important: Make sure the catalog number and firmware number match your terminal.
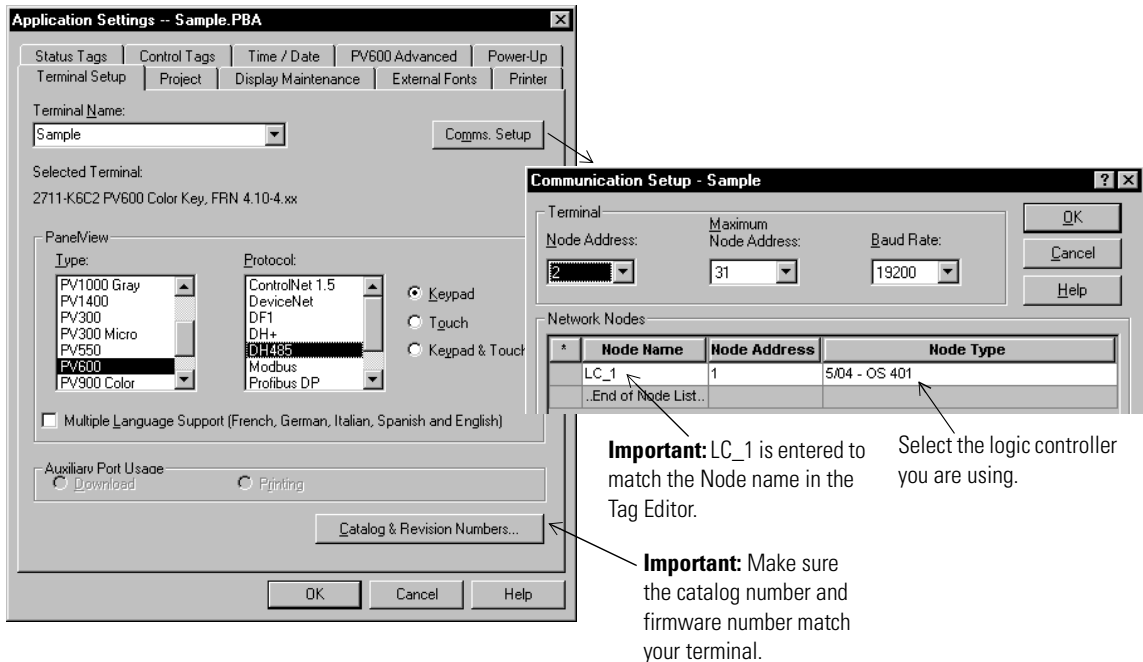
4. Click **OK** until you exit the **Application Settings** dialog.

Configuring DH+ communications

This section defines the communication settings for a DH+ PanelView terminal and logic controller on a DH+ network.

1. Select **Application>Settings**.

2. Select the **Terminal Setup** tab.

3. Click the **Comms. Setup** button.

4. Set the parameters as shown below.

To add a network node, right-click on the **Node Name** field. Enter the **Node Name**, **Node Address** and **Node Type** of the logic controller you are using.

IMPORTANT	For ControlLogix controller, select a PLC-5 as the Node Type.

Check the firmware number to make sure it matches your hardware.

Important: LC_1 is entered to match the Node name in the Tag Editor.

Select the logic controller you are using.
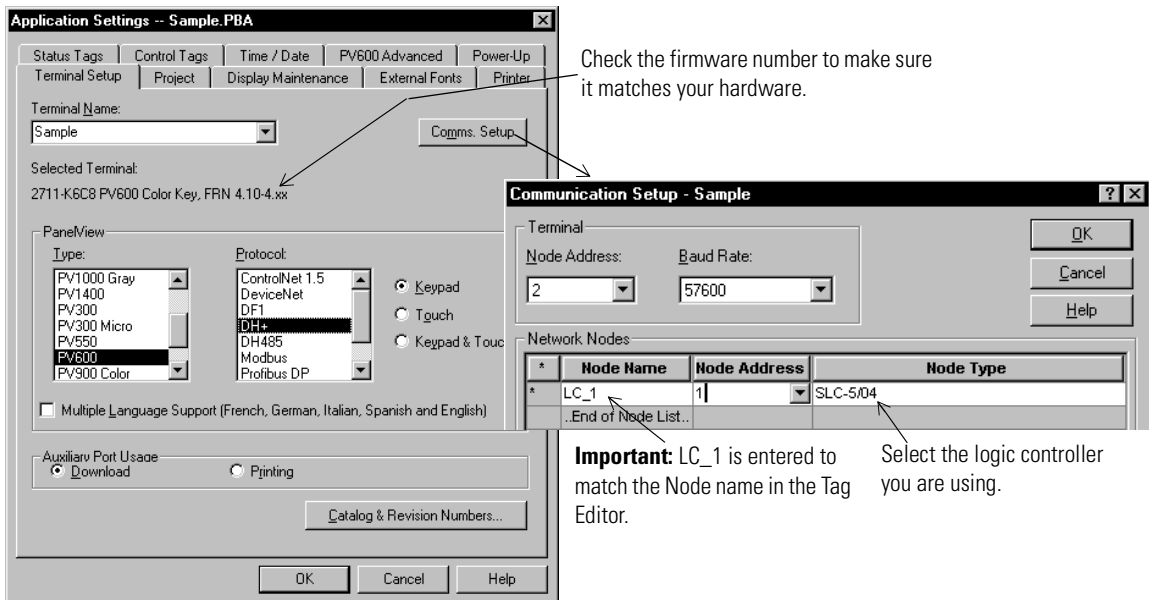
5. Click **OK** until you exit the **Application Settings** dialog.

Configuring Remote I/O communications

This section defines the communication settings for a Remote I/O PanelView terminal and logic controller on a Remote I/O network.

1. Select **Application>Settings**.

2. On the **Terminal Setup** tab, click the **Comms. Setup** button. Set the properties as shown.

Select a controller:
  Select SLC 5/04 with 1747-SN/B scanner
  Select ControlLogix for ControlLogix with DHRIO module

Important: LC_1 is entered to match the Node name in the Tag Editor.

Check the firmware number to make sure it matches your hardware.
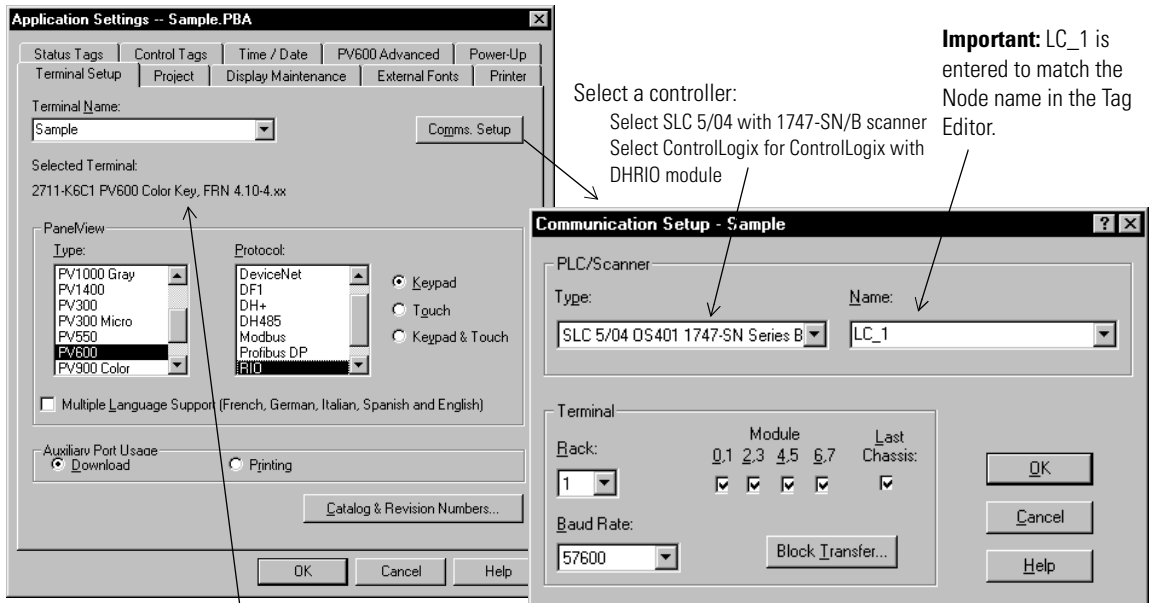
3. Click **OK** until you exit the **Application Settings** dialog.

Configuring DeviceNet communications

This section defines the communication settings for a DeviceNet PanelView terminal operating as a slave device on a DeviceNet network.

1. Select **Application>Settings**.

2. On the **Terminal Setup** tab, click the **Comms. Setup** button. Set the properties as shown.

Verify that the catalog number and firmware number matches your hardware.

Type 2.

Type 3.
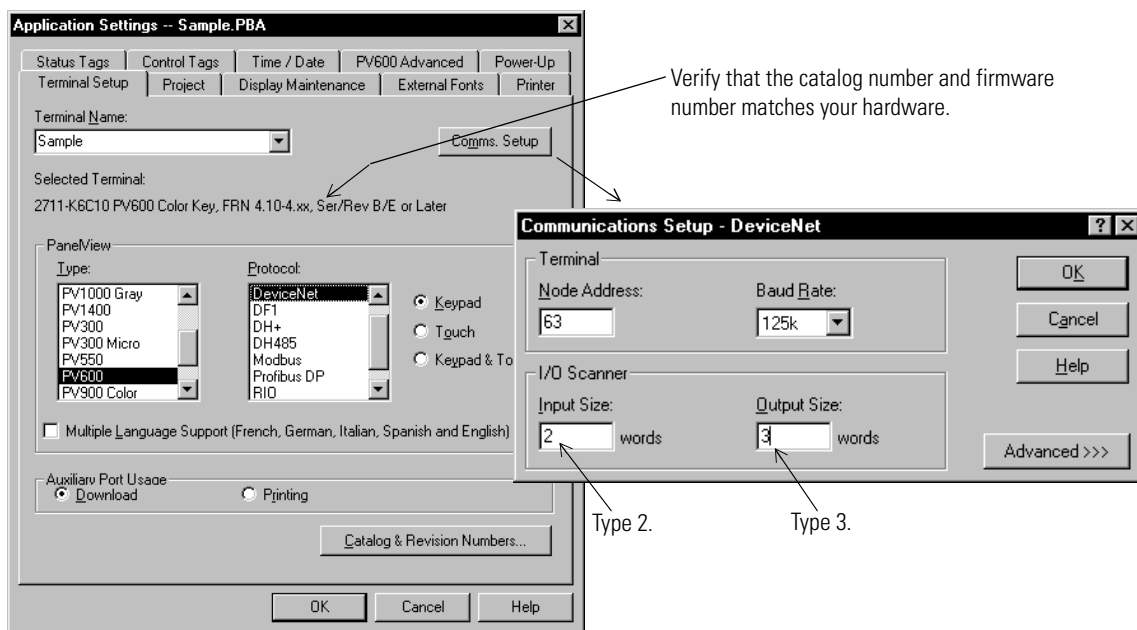
3. Click **OK** until you exit the **Application Settings** dialog.

Configuring ControlNet communications

This section defines the communication settings for a ControlNet PanelView terminal and ControlLogix controller on a ControlNet network.

1. Select **Application>Settings**.

2. On the **Terminal Setup** tab, click the **Comms. Setup** button. Set the properties as shown.

Verify that the catalog number and firmware number matches your hardware.

Important: LC_1 is entered to match the Node name in the Tag Editor.

Select the logic controller you are using.
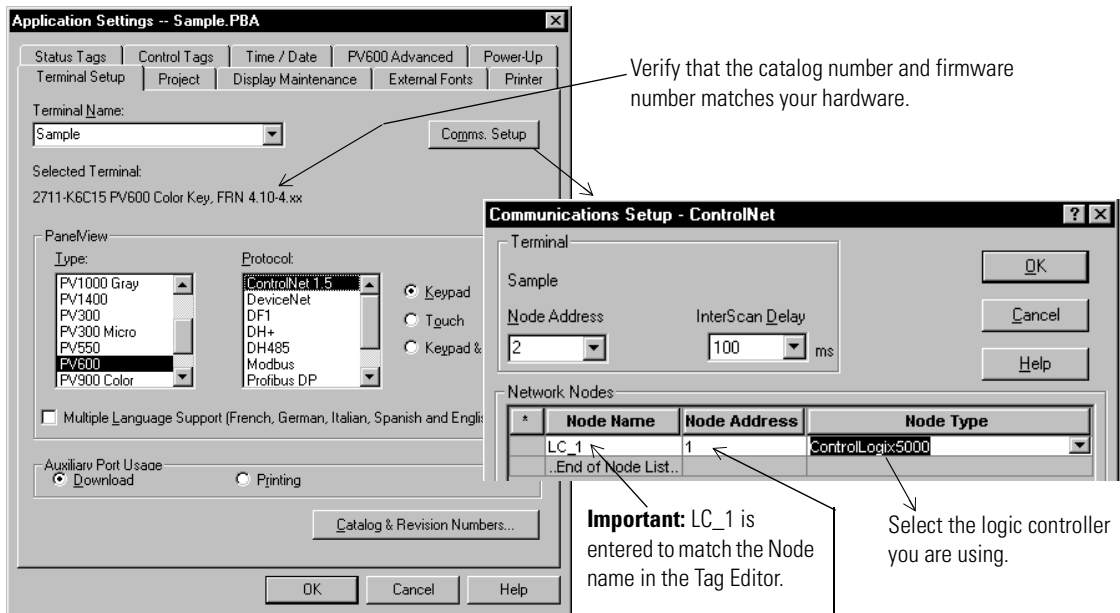
1 for Allen-Bradley PLC
1 1 0 for ControlLogix, where:
    1 refers to the 1784-CNB node number (1 to 99)
    1 refers to the ControlLogix backplane number
    0 refers to ControlLogix slot number
You must enter a space between the numbers as shown.

3. Click **OK** until you exit the **Application Settings** dialog.

Configuring EtherNet/IP communications

This section defines the communication settings for an EtherNet/IP PanelView terminal and a ControlLogix controller on an Ethernet/IP network.

   1. Select **Application>Settings**.

   2. On the **Terminal Setup** tab, click the **Comms. Setup** button. Set the properties as shown.

Verify that the catalog number and firmware number matches your hardware.

Important: LC_1 is entered to match the Node name in the Tag Editor.

Enter the Node Address, Path, and Node Type as shown.

Click the **Ethernet Config** button. Set parameters as shown.

   3. Click **OK** until you exit the **Application Settings** dialog.

Configuring DF1 communications

This section defines the communication settings for a DF1 PanelView terminal and a PLC-5 or SLC 5/03, /04, /05 controller through channel 0.

1. Select **Application>Settings**.

2. On the **Terminal Setup** tab, click the **Comms. Setup** button. Set the properties as shown.

Verify that the catalog number and firmware number matches your hardware.

Important: LC_1 is entered to match the Node name in the Tag Editor.

Select the logic controller you are using.
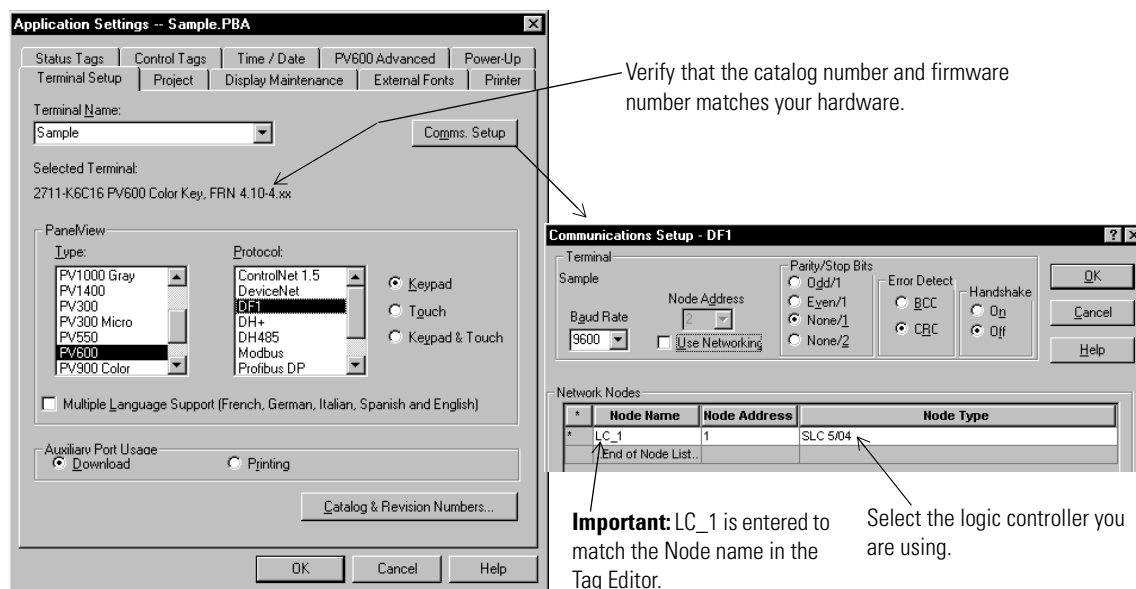
3. Click **OK** until you exit the **Application Settings** dialog.

Configuring Modbus Communications

This section defines the communication settings for a Modbus PanelView terminal and a MicroLogix controller.

1. Select **Application>Settings**.

2. On the **Terminal Setup** tab, click the **Comms. Setup** button. Set the properties as shown.

Verify that the catalog number and firmware number matches your hardware.
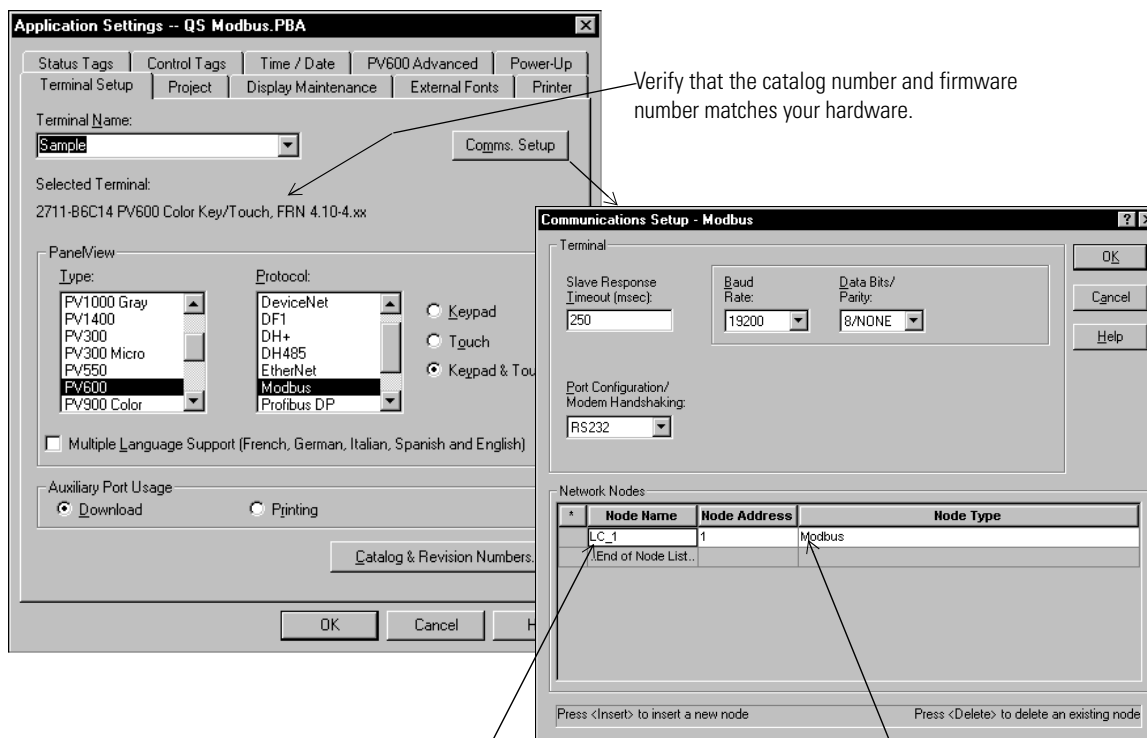
Important:
LC_1 is entered to match the Node name in the Tag Editor.

Select Modbus as the Node Type.

Saving the application

💾 Select **File>Save** or click the **Save** tool on the toolbar.

Entering application tags

This chapter shows how to:

- open the tag editor
- enter tags in the worksheet for each communication protocol
- save the tags

Opening the tag editor

To open the tag editor:

- Select **Tools>Tag Editor**.
- Or open the **System** folder in the Application window and double-click on the **Tag Editor** icon.

  A blank worksheet opens with the protocol name on its tab. The tag editor has its own menu bar and toolbar that remains active until you close the tag editor.

Tag fields

Worksheet tab
identifies protocol

Scrolls tabs to
left or right

Scrolls columns
to left or right
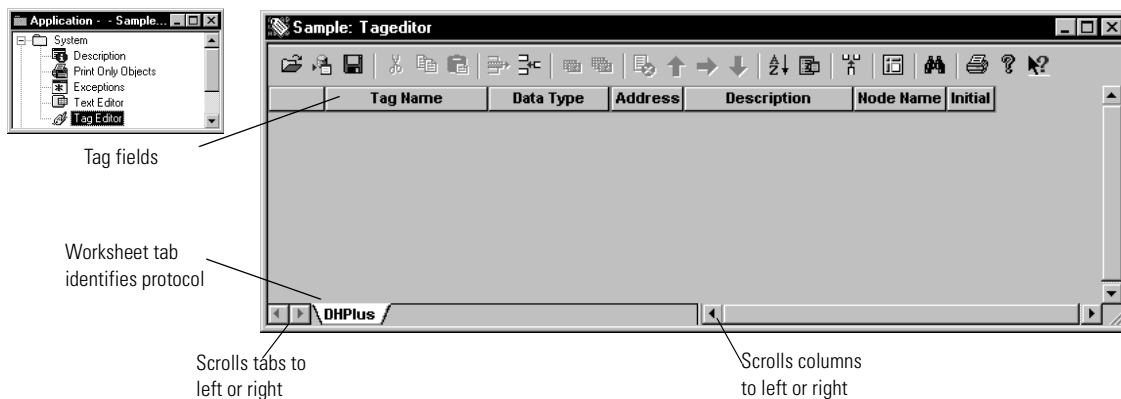
Description of the application tags

DH-485, DH+, and DF1 application tags

The following application tags are used by the DH-485, DH+, and DF1 applications. Defaults are accepted for fields not shown in table. These tags are also used for EtherNet/IP (to a PLC-5E or SLC) and ControlNet (to a PLC-5C).

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Min	Max
Start_Motor	Bit	B3:0/0	Starts the motor	LC_1	0	0	0
Stop_Motor	Bit	B3:0/1	Stops the motor	LC_1	0	0	0
Motor_Status_Ind	Bit	B3:0/2	Shows on/off motor status	LC_1	0	0	0
Motor_Speed	Unsigned Integer	N7:0	Shows the motor speed	LC_1	0	0	65535
Set_Max_Motor_Speed	Unsigned Integer	N7:1	Sets the maximum speed	LC_1	1800	600	1800
Speed_Alarm	Bit	B3:1/0	Triggers alarm messages	LC_1	0	0	0

Remote I/O application tags

The following application tags are used by the Remote I/O application. Defaults are accepted for fields not shown in table.

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Min	Max
Start_Motor	Bit	I:010/0	Starts the motor	LC_1	0	0	0
Stop_Motor	Bit	I:010/1	Stops the motor	LC_1	0	0	0
Motor_Status_Ind	Bit	O:010/0	Shows on/off motor status	LC_1	0	0	0
Motor_Speed	Unsigned Integer	O:011	Shows the motor speed	LC_1	0	0	65535
Set_Max_Motor_Speed	Unsigned Integer	I:011	Sets the maximum speed	LC_1	1800	600	1800
Speed_Alarm	Bit	O:012/0	Triggers alarm messages	LC_1	0	0	0

ControlNet unscheduled application tags

The following application tags are used by the ControlNet application using unscheduled messaging. **Note**: Tags are shown for a ControlLogix application. Defaults are accepted for fields not shown in table.

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Min	Max
Start_Motor	Bit	Motor_Control.00	Starts the motor	LC_1	0	0	0
Stop_Motor	Bit	Motor_Control.01	Stops the motor	LC_1	0	0	0
Motor_Status_Ind	Bit	Motor_Control.02	Shows on/off motor status	LC_1	0	0	0
Motor_Speed	Signed Integer/INT	Motor_Speed[0]	Shows the motor speed	LC_1	0	0	65535
Set_Max_Motor_Speed	Signed Integer/INT	Motor_Speed[1]	Sets the maximum speed	LC_1	1800	600	1800
Speed_Alarm	Bit	Alarms.00	Triggers alarm messages	LC_1	0	0	0

ControlNet scheduled application tags

The following application tags are used by the ControlNet application using scheduled messaging. Defaults are accepted for fields not shown in table.

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Min	Max
Start_Motor	Bit	SI0:0/0	Starts the motor	ControlNet_Scheduled_File	0	0	0
Stop_Motor	Bit	SI0:0/1	Stops the motor	ControlNet_Scheduled_File	0	0	0
Motor_Status_Ind	Bit	SO0:0/0	Shows on/off motor status	ControlNet_Scheduled_File	0	0	0
Motor_Speed	Signed Integer/INT	SO0:1	Shows the motor speed	ControlNet_Scheduled_File	0	0	65535
Set_Max_Motor_Speed	Signed Integer/INT	SI0:1	Sets the maximum speed	ControlNet_Scheduled_File	1800	600	1800
Speed_Alarm	Bit	SO0:2/0	Triggers alarm messages	ControlNet_Scheduled_File	0	0	0

DeviceNet application tags

The following application tags are used by the DeviceNet application. Defaults are accepted for fields not shown in table.

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Min	Max
Start_Motor	Bit	I:00/0	Starts the motor	LC_1	0	0	0
Stop_Motor	Bit	I:00/1	Stops the motor	LC_1	0	0	0
Motor_Status_Ind	Bit	O:0/0	Shows on/off motor status	LC_1	0	0	0
Motor_Speed	Unsigned Integer	O:1	Shows the motor speed	LC_1	0	0	65535
Set_Max_Motor_Speed	Unsigned Integer	I:1	Sets the maximum speed	LC_1	1800	600	1800
Speed_Alarm	Bit	O:2/0	Triggers alarm messages	LC_1	0	0	0

EtherNet/IP application tags

The following application tags are used by the ControlLogix controller in the EtherNet/IP application using controller addressing. Defaults are accepted for fields not shown in table.

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Min	Max
Start_Motor	Bit	Motor_Control.00	Starts the motor	LC_1	0	0	0
Stop_Motor	Bit	Motor_Control.01	Stops the motor	LC_1	0	0	0
Motor_Status_Ind	Bit	Motor_Control.02	Shows on/off motor status	LC_1	0	0	0
Motor_Speed	Signed Integer/INT	Motor_Speed[0]	Shows the motor speed	LC_1	0	0	65535
Set_Max_Motor_Speed	Signed Integer/INT	Motor_Speed[1]	Sets the maximum speed	LC_1	1800	600	1800
Speed_Alarm	Bit	Alarms.00	Triggers alarm messages	LC_1	0	0	0

Modbus application tags

The following application tags are used by the Modbus application. Defaults are accepted for fields not shown in table.

Tag Name	Data Type	Tag Address	Description	Node Name	Initial Value	Type
Start_Motor	Bit	1	Starts the motor	LC_1	0	Output Coil
Stop_Motor	Bit	2	Stops the motor	LC_1	0	Output Coil
Motor_Status_Ind	Bit	3	Shows on/off motor status	LC_1	0	Output Coil
Motor_Speed	Unsigned Integer/INT	1	Shows the motor speed	LC_1	0	Holding Register
Set_Max_Motor_Speed	Unsigned Integer/INT	2	Sets the maximum speed	LC_1	1800	Holding Register
Speed_Alarm	Bit	17	Triggers alarm messages	LC_1	0	Output Coil

Entering the application tags

For all communication protocols enter the tags in the worksheet. Each worksheet tab shows the name of the protocol for which you are creating tags. For DeviceNet, make sure you click the **DNet - IO Slave** tab before entering tags. For Ethernet, click the **ENet - Controller Address** tab.

Follow the procedure below to enter each row (DH+ shown, others similar).

1. Select **View>Extended Attributes** or click the **Extended Attributes** tool to display the Initial, Minimum, Maximum, Offset and Scale fields.

2. Select **Edit>Insert Tag** or click the **Insert Tag** tool on the toolbar.

3. Double-click in the **Tag Name** field and type **Start_Motor**.

4. Click on the arrow in the **Data Type** field and select **Bit**.
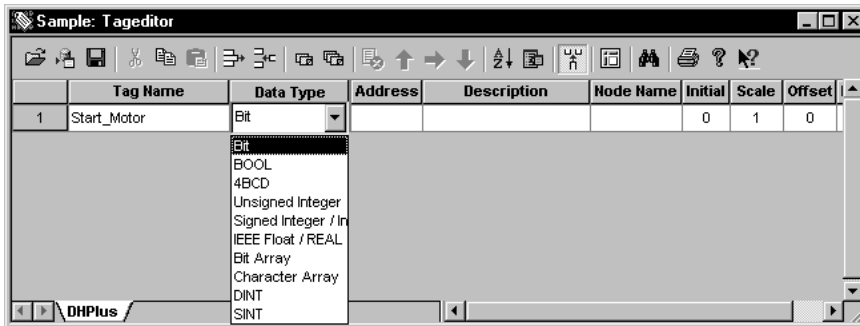
5. Double-click in the **Address** field and type **B3:0/0**. For Modbus, type **1** in the **Address** field.
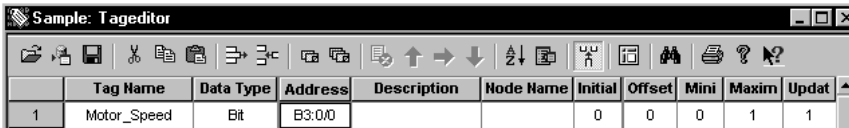
6. Double-click in the **Description** field and type **Starts the Motor**.
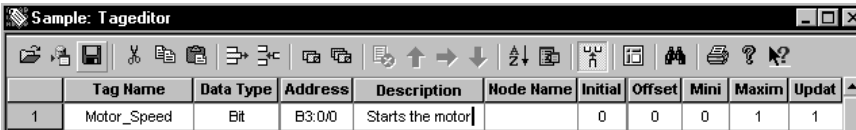
7. Click on the arrow in the **Node Name** field and select **LC_1**. This node name was entered for the logic controller when you defined communication settings.
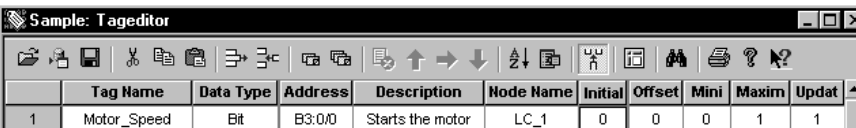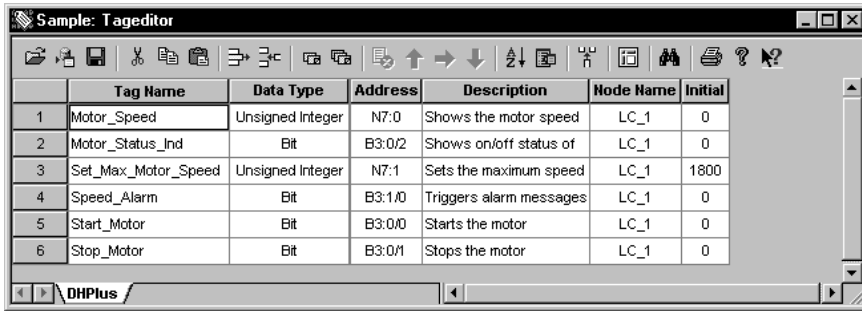
The defaults are accepted for the rest of the tag attributes. **However, for the Set_Max_Motor_Speed tag enter 600 in the Minimum field, and 1800 in the Initial Value and Maximum fields. The Minimum value of 600 does not apply to Modbus.**

For a Modbus application, enter **Holding Register** or **Output Coil** in the **Type** field as shown on previous page.
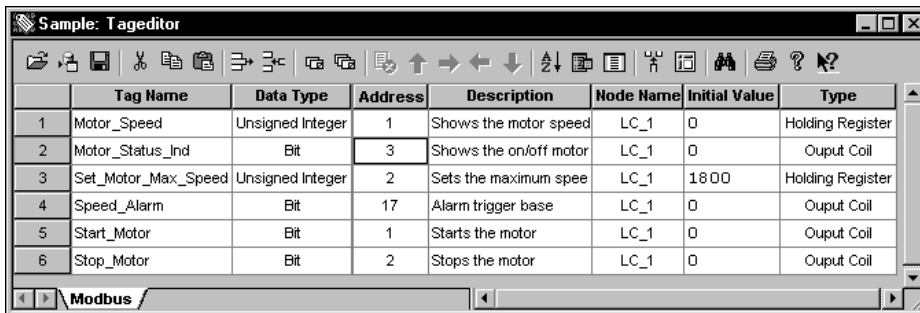
8. Repeat steps 2 - 7 to enter the rest of the tags.

The tag editor should look similar to this when you are done entering your tags.

	Tag Name	Data Type	Address	Description	Node Name	Initial
1	Motor_Speed	Unsigned Integer	N7:0	Shows the motor speed	LC_1	0
2	Motor_Status_Ind	Bit	B3:0/2	Shows on/off status of	LC_1	0
3	Set_Max_Motor_Speed	Unsigned Integer	N7:1	Sets the maximum speed	LC_1	1800
4	Speed_Alarm	Bit	B3:1/0	Triggers alarm messages	LC_1	0
5	Start_Motor	Bit	B3:0/0	Starts the motor	LC_1	0
6	Stop_Motor	Bit	B3:0/1	Stops the motor	LC_1	0

For a Modbus application, the tag editor should look like this.

	Tag Name	Data Type	Address	Description	Node Name	Initial Value	Type
1	Motor_Speed	Unsigned Integer	1	Shows the motor speed	LC_1	0	Holding Register
2	Motor_Status_Ind	Bit	3	Shows the on/off motor	LC_1	0	Ouput Coil
3	Set_Motor_Max_Speed	Unsigned Integer	2	Sets the maximum spee	LC_1	1800	Holding Register
4	Speed_Alarm	Bit	17	Alarm trigger base	LC_1	0	Ouput Coil
5	Start_Motor	Bit	1	Starts the motor	LC_1	0	Ouput Coil
6	Stop_Motor	Bit	2	Stops the motor	LC_1	0	Ouput Coil

9. Save the tags by selecting **File>Save Project**.

10. Close the tag editor by clicking the **X** in the title bar.

11. Close each screen by clicking the **X** in the title bar of the screen. Or select **Screen>Close** to close each screen.

Saving the application

Select **File>Save** or click the **Save** icon on the toolbar.

Downloading the application

This chapter shows how to:

- validate the application
- download the application using a point-to-point serial connection
- close the application

Checking the application for errors

This section shows you how to validate the application for errors. The application is also validated automatically during the download process.

1. Select **Application>Validate All**. The application is checked for errors.

If the application passes validation, you'll see this dialog.
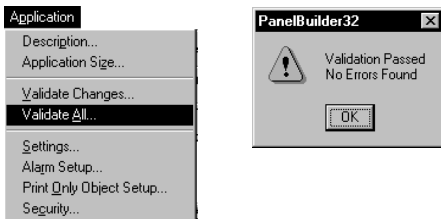
2. Click **OK**.

If any errors or warnings occur, the Exceptions window opens. Errors must be corrected, before you can download the application. Warnings are optional.

Click to close window.

Double-click on any error or warning to navigate to the source of the error.

To get help, select an error and click F1 or select Exceptions>Details.
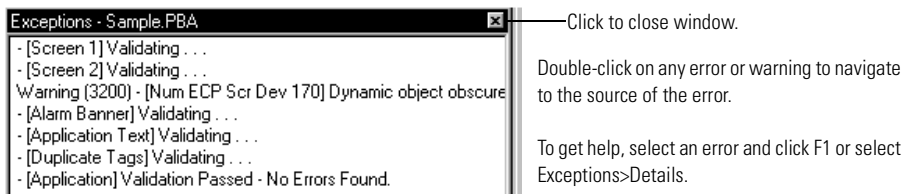
After clearing errors, you can reopen the Exceptions window by double-clicking the Exceptions window in the System folder of the Application window.

To get additional help on validating an application, select **Help>Contents**. Select the **Index** tab and enter the search words **validate application**.

Downloading the application

DH+, Remote I/O, DF1, ControlNet, DeviceNet, EtherNet/IP, Modbus PanelView Terminals

This section shows how to download an application from your computer to a DH+, RIO, ControlNet, DeviceNet, EtherNet/IP or Modbus PanelView terminal using a point-to-point serial connection and PanelBuilder32's DF1 driver.

Check your cable connections as shown in Chapter 1.

1. Select **File>Download**.

The Download File dialog opens. It shows the name of the application and the driver used to download the application.
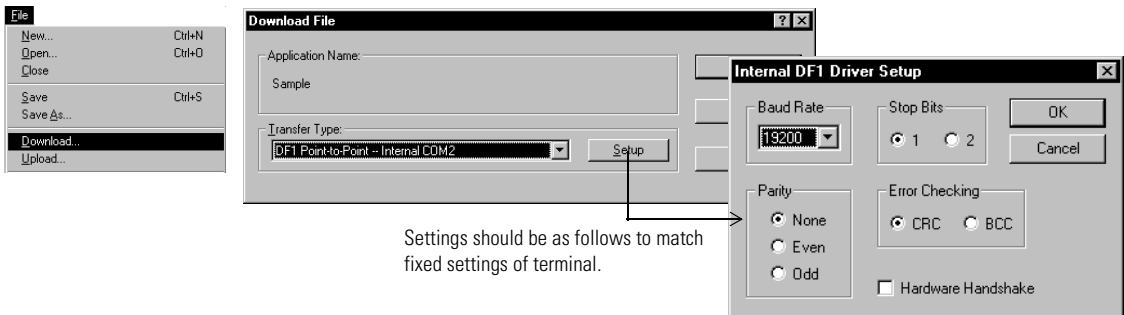
Settings should be as follows to match fixed settings of terminal.

2. Click **OK**.

The application is validated (checked for errors) and then downloaded to the terminal. The following dialog opens to show the status of the download.

You can monitor the progress of each download tasks.

Errors appear here.
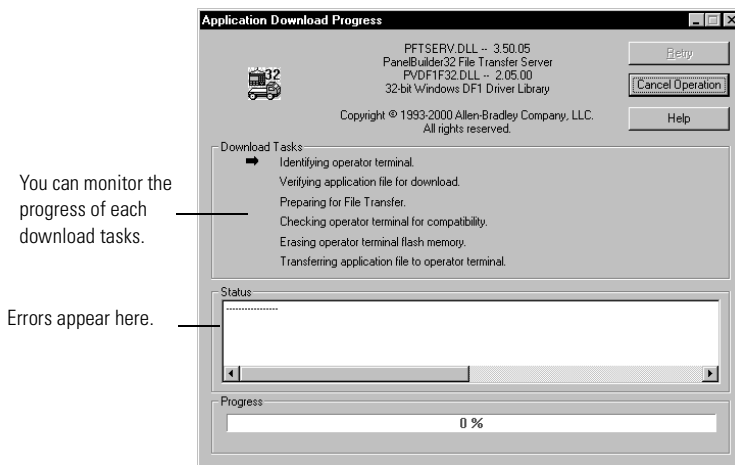
When the download is complete, the terminal resets, verifies and displays the startup screen of the application.

DH485 and RS232 (DH485 protocol) PanelView Terminals

This section shows how to download an application from your computer to a DH485 or RS-232 (DH485 protocol) PanelView terminal using the **RSLinx 1747-PIC Device** driver. RSLinx is installed as part of the PanelBuilder32 installation.

> **IMPORTANT** The DF1 driver will not be available if any of the serial ports on your computer are configured to use an RSLinx driver.

Check your cable connections as shown in Chapter 1.

1. Configure the RSLinx 1747-PIC driver as described in steps 2 through 5.
2. Select **File>Workstation Setup** and then select **Configure RSLinx Drivers** from the Workstation Setup dialog.

   The **Configure Drivers** dialog opens.
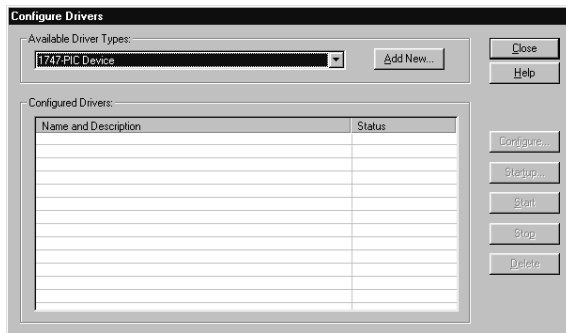
3. Select **1747-PIC /AIC+ Device** from the pull-down menu and click **Add New**.

   You are prompted to enter a driver name.
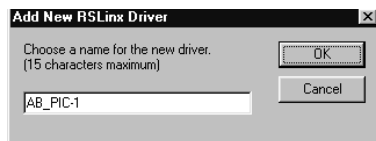
4. Click **OK** to save the driver name.

A dialog opens allowing you to enter the configuration of the PIC as shown here:
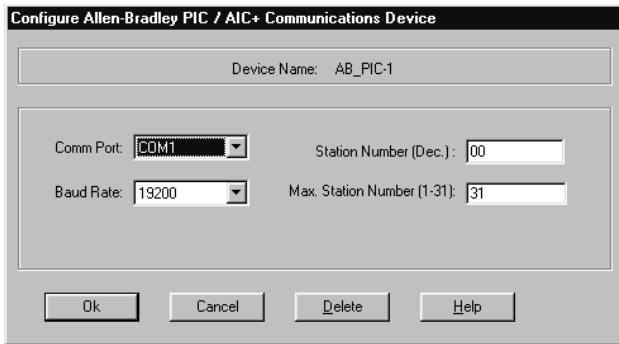
5. Click **OK** and restart your computer to load the new driver.

6. Select **File>Download**.

The Download File dialog opens. It shows the name of the application. Select **RSLinx 1747-PIC Device** as the driver used to download the application.
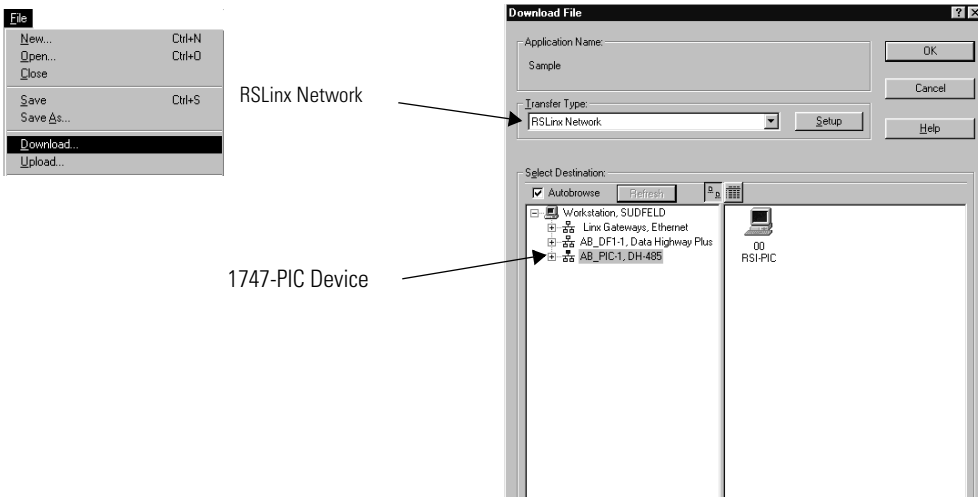
7. Click **OK**.

The application is validated (checked for errors) and then downloaded to the terminal. The following dialog opens to show the status of the download.

You can monitor the progress of each download tasks.

Errors appear here.
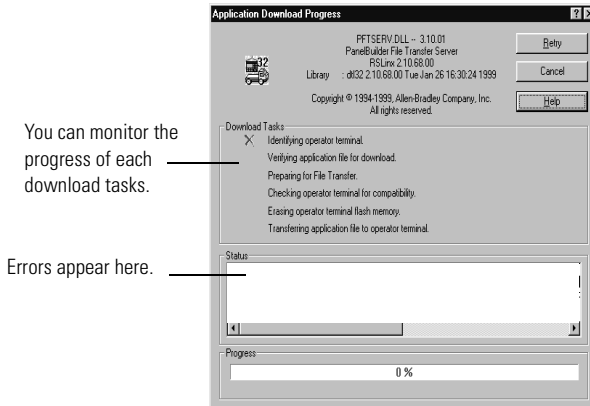
When the download is complete, the terminal resets, verifies and displays the startup screen of the application.

Close the application and exit PanelBuilder32

1. Select **File>Close**

Or double-click the **X** in the upper corner of the Application Window.
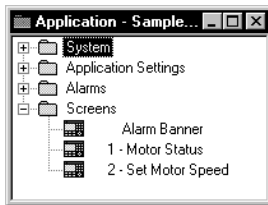
2. Select **File>Exit** to exit PanelBuilder32.

Running the application

This chapter provides some guidance in checking the operation of the application.

Motor Status screen

After receiving the downloaded application, the PanelView terminal displays the Motor Status screen.
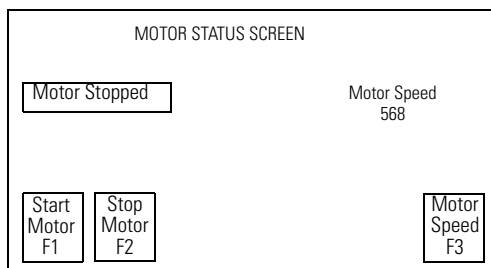
To start/stop the motor:

1. Press the [F1] key. On touch screens, touch [Start Motor F1]

   Notice how the Start / Stop Motor push button changes each time it is pressed.
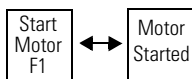
2. Stop the motor by pressing [F2] or on touch screens [Stop Motor F2]

   Notice that the stop button also changes inner text each time it is pressed.
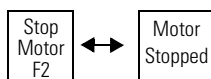
3. Press the Motor Start/Stop buttons and note how the motor status indicator also changes.

```
Motor Running
      ↕
Motor Stopped
```

```
                    MOTOR STATUS SCREEN

  Motor Stopped                        Motor Speed
                                           568



  Start    Stop                                Motor
  Motor    Motor                               Speed
   F1       F2                                   F3
```
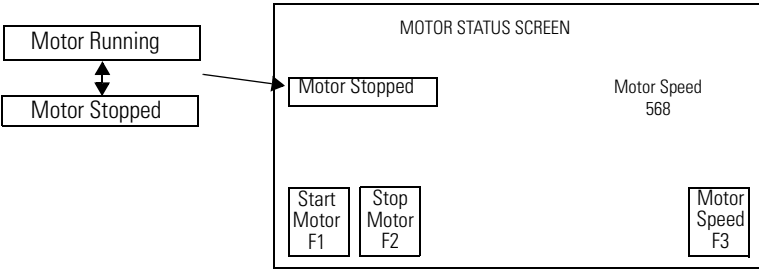
Motor Speed screen

Access the Motor Speed Screen by pressing [F3]. On touch screens, touch [Motor Speed F3]

```
            SET MOTOR SPEED SCREEN

             Enter Maximum Speed

                    850

                                Motor
                                Status
                                 F2
```
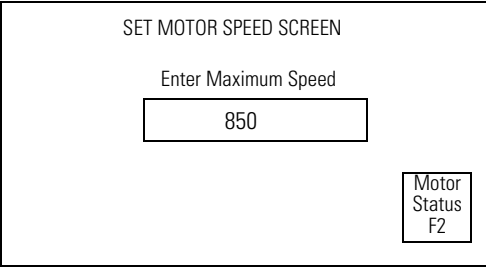
To enter a motor speed:

1. Press the [F1] key. On touch screens, touch [Enter Maximum Speed \####]

The numeric entry scratchpad opens.

Current value entered in scratchpad
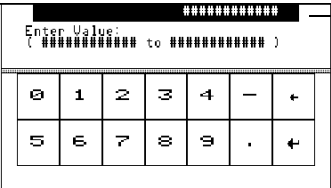
```
            ############
Enter Value:
( ############ to ############ )

  0   1   2   3   4   —   ←

  5   6   7   8   9   .   ←
```
**550 Touch Screen only
Terminal Scratchpad**
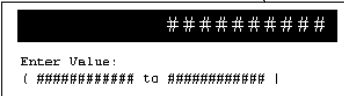
```
            ##########
Enter Value:
( ########## to ########### |
```
**Keypad and Keypad/Touch Screen
Terminal Scratchpad**
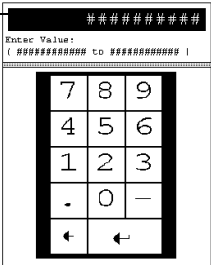
```
            #########
Enter Value:
( ########### to ########### |

      7   8   9

      4   5   6

      1   2   3

      .   0   —

      ←       ←
```
**900/1000/1400Touch Screen
Terminal Scratchpad**

2. Enter a motor speed between 600 and 1800 on the scratchpad using the numeric entry keys. On touch screens, touch the numeric keys displayed on the screen.

Note: During data entry, wait until the number you enter appears in the scratchpad before entering the next number.

3. Press Enter (↵) to save the value and close the scratchpad.

4. Press the [F2] key. On touch screens, touch
| Motor |
| Status |
| F2 |

Notice the new motor speed displayed on the Status screen.

The new speed will not take effect until the motor is stopped and restarted.

Alarm Banner

Create an alarm condition by entering a motor max speed between 1200 - 1500 as described in the previous section and then starting the motor. An alarm banner is displayed over the current screen.
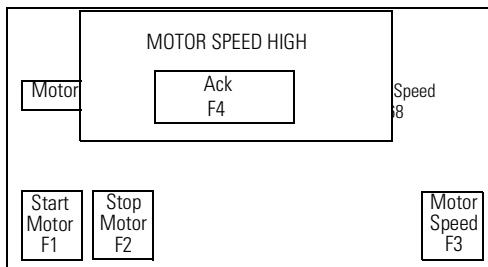
To acknowledge the alarm, press the [F4] key. On touch screens, touch
| Ack |
| F4 |

The alarm banner is cleared.

Note: When the motor speed is in the range 1500 -1800 rpm, a different alarm message is displayed.

Application programs

This appendix lists the required ladder logic to run the sample application on the PanelView terminal and contains three sections:

- PanelBuilder32 application programs
- Ladder logic programs
- DeviceNet scanner configurations

PanelBuilder32 application programs

These files are on the PanelBuilder32 installation CD in the QuickStart\PV directory.

PanelBuilder32 Application Files

File Name	Use with this application:
CL_DHP.pba	• ControlLogix Controller with DH+ module (1756-DHRIO) • DHRIO module configured for slot 1 • Channel 1 of DHRIO set for 57.6K baud
CL_rio.pba	• ControlLogix Controller with RIO Module (1756-DHRIO) • DHRIO module in slot 1 • Channel 2 of DHRIO set for 57.6K baud
CLCNetS.pba	• ControlLogix with a ControlNet Bridge (1756-CNB) • ControlNet Bridge configured for slot 1 • Scheduled messaging
CLCNetU.pba	• ControlLogix with a ControlNet Bridge (1756-CNB) • ControlNet Bridge configured for slot 1 • Unscheduled messaging
CL_Enet.pba	• ControlLogix Controller with 1756-ENET/B module • Network addressing • Slot 1
PLC_Enet.pba	• PLC-5E (Ethernet)
SLC_Enet.pba	• SLC 5/05 (Ethernet)
DF1.pba	• Any enhanced PLC-5, SLC-5/03, 5/04, 5/05, Micrologix
DNet.pba	• 1756-DNB configured for slot 1 with ControlLogix controller or • 1771-SDN configured for slot 1with PLC-5 controller or • 1747-SDN configured for slot 1 with SLC controller.
MLDH485.pba	• MicroLogix with RS-485
PLC_DHP.pba	• PLC-5 with Data Highway +
PLC_RIO.pba	• PLC-5 with Remote I/O
PLCCNetU.pba	• PLC-5 with ControlNet • Unscheduled messaging
SLC_DHP.pba	• SLC 5/04 with Data Highway +
SLC_RIO.pba	• SLC with Remote I/O • Remote I/O module configured for slot 1
SLCDH485.pba	• 1761-NET-AIC may be required • Any SLC **Note:** SLC 5/04 or 5/05 channel 0 can be configured for DH485 protocol. • Configure the PanelBuilder application to match the PanelView catalog number.
Modbus.pba	• MicroLogix 1200/1500

Ladder logic programs

These files are provided on the PanelBuilder32 installation CD.

ControlLogix Controller Programs (\QuickStart\CL directory)

File Name	Use with this Application:	Page:
cnet_sch.acd	• ControlLogix in slot 0 • ControlLogix 1756-CNB module in slot 1 • Scheduled messages	79
cnet_unsch.acd	• ControlLogix in slot 0 • ControlLogix 1756-CNB module in slot 1 • Unscheduled messages	81
dhp.acd	• ControlLogix in slot 0 • 1756-DHRIO module in slot 1 • Channel 1 of DHRIO set for 57.6K baud	83
dnet.acd	• ControlLogix in slot 0 • ControlLogix 1756-DNB module in slot 1 • Baud rate set at 125K	85
rio.acd	• ControlLogix in slot 0 • IP Address is 10.0.0.1 • 1756-DHRIO module in slot 1 • Channel 2 of DHRIO set for 57.6K baud	87
enet.acd	• ControlLogix in slot 0 • 1756-ENET/B module in slot 1 • Network Addressing is message type	89

PLC-5 Controller Programs (\QuickStart\PLC directory)

File Name	Use with this Application:	Page:
cnet.rsp	• PLC-5C	109
dhp_df1.rsp	• Any enhanced PLC-5 for DF1 • Any PLC-5 for DH+	111
dnet.rsp	• Any PLC-5 • 1771-SDN DeviceNet scanner in slot 1	113
rio.rsp	• Any PLC-5 • Remote I/O port	116
enet.rsp	• PLC-5E (Ethernet) • IP Address is 10.0.0.1	118

SLC Controller Programs (\QuickStart\SLC directory)

File Name	For Use with this Application:	Page:
dh485.rss	• Channel 0 must be used on an SLC-5/04 or 5/05 with a 1761-NET-AIC Link Coupler	95
df1.rss	• SLC 5/03, 5/04, 5/05 • Channel 0 configured for DF1, no-parity, CRC, and no handshaking. • Baud rate set at 9600 **Important:** You may need to convert the ladder logic for the appropriate controller.	91
dhp.rss	• SLC 5/04 • Channel 1 configured for DH+ at 57.6K baud.	99
dnet.rss	• SLC 5/02, 5/03, 5/04, 5/05 • 1747-SDN DeviceNet scanner in slot 1 • Baud rate set at 125K **Important:** You may need to convert the ladder logic for the appropriate controller.	101
rio.rss	• SLC 5/02, 5/03, 5/04, 5/05 • 1747-SN scanner in slot 1 • Baud rate set at 57.6K **Important:** You may need to convert the ladder logic for the appropriate controller.	103
enet.rss	• SLC 5/05E (Ethernet) • IP Address is 10.0.0.1	105

Micrologix Controller Programs (\QuickStart\ML directory)

File Name	For Use with this Application:	Page:
df1.rss	• MicroLogix 1000 Series C or later **Important:** You may need to convert the ladder logic for the appropriate controller.	93
dh485.rss	• MicroLogix 1000 Series C or later • 1761-NET-AIC Link Coupler may be needed • Channel 0 must be used on an SLC-5/04 or 5/05 with a 1761-NET-AIC Link Coupler **Important:** You may need to convert the ladder logic for the appropriate controller.	97
modbus.rss	• MicroLogix 1200/1500 **Important:** You may need to convert the ladder logic for the appropriate controller.	107

cnet_sch.acd

QuickStart ControlLogix ladder logic.
The ladder logic is for a ControlLogix in slot 0 and a 1756-CNB ControlNet bridge in slot 1. The 1756-CNB configuration can be changed from the I/O Configuration in RSLogix 5000. The PaneView was configured for scheduled message by adding a new module under the 1756-CNB configuration.
This program simulates a motor/drive being started and stopped from the PaneView. See the Quick Start manual for details.

0
PaneView:I.Data[0].0] [PaneView:I.Data[0].1]/[Motor_Feedback ( )
Motor_Feedback] [

Indicates when the motor is running or stopped

1
Motor_Feedback] [PaneView:O.Data[0].0 ( )

Allows the operator to change the max motor speed (600 to 1800 rpm)

2
LIM
Limit Test (CIRC)
Low Limit   600
Test   PaneView:I.Data[1]
                     0 ←
High Limit   1800

MOV
Move
Source   PaneView:I.Data[1]
                     0 ←
Dest   Simulate_Motor_Speed.PRE
                  1800 ←

Simulates the motor with a drive incrementing the speed

3
Motor_Feedback] [
TON
Timer On Delay   ⟨EN⟩
Timer   Simulate_Motor_Speed   ⟨DN⟩
Preset   1800 ←
Accum   0 ←

```
                          Displays the current speed (0 to 1800 rpm) of the motor
                                                                            ┌─MOV────────────────────┐
 4                                                                          │ Move                    │
                                                                            │ Source   Simulate_Motor_Speed.ACC │
                                                                            │                        0 ← │
                                                                            │ Dest        PaneView:O.Data[1] │
                                                                            │                        0 ← │
                                                                            └─────────────────────────┘

                        Triggers the Hi Level Alarm when the motor speed is above 1200 rpm
                   ┌─GEQ────────────────────┐                                    PaneView:O.Data[2].2
 5                 │ Grtr Than or Eql (A>=B) │                                        ─( )─
                   │ Source A   PaneView:O.Data[1] │
                   │                    0 ← │
                   │ Source B         1200 │
                   └─────────────────────────┘

                      Triggers the Hi Hi Level Alarm when the motor speed is above 1500 rpm
                   ┌─GEQ────────────────────┐                                    PaneView:O.Data[2].1
 6                 │ Grtr Than or Eql (A>=B) │                                        ─( )─
                   │ Source A   PaneView:O.Data[1] │
                   │                    0 ← │
                   │ Source B         1500 │
                   └─────────────────────────┘


(End)
```

cnet_unsch.acd

QuickStart ControlLogix ladder logic.
The ladder logic is for a ControlLogix in slot 0 and a 1756-CNB ControlNet bridge in slot 1. The 1756-CNB configuration can be changed from the I/O Configuration in RSLogix 5000.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

Displays the current speed (0 to 1800 rpm) of the motor

4

```
                                              ┌─MOV──────────────┐
                                              │ Move             │
                                              │ Source  Simulate_Motor_Speed.ACC │
                                              │                0 ← │
                                              │ Dest         Motor_Speed[0] │
                                              │                0 ← │
                                              └──────────────────┘
```

Triggers the Hi Level Alarm when the motor speed is above 1200 rpm

Alarms[0].2

5

```
┌─GEQ──────────────┐
│ Grtr Than or Eql (A>=B) │
│ Source A   Motor_Speed[0] │
│                0 ← │
│ Source B         1200 │
└──────────────────┘
```
──( )──

Triggers the Hi Hi Level Alarm when the motor speed is above 1500 rpm

Alarms[0].1

6

```
┌─GEQ──────────────┐
│ Grtr Than or Eql (A>=B) │
│ Source A   Motor_Speed[0] │
│                0 ← │
│ Source B         1500 │
└──────────────────┘
```
──( )──

(End)

dhp.acd

QuickStart ControlLogix ladder logic.
The ladder logic is for a ControlLogix in slot 0 and a DHRIO module in slot 1. The Channel 1 of the DHRIO module is DH+ at 57.6 Kbaud. The DHRIO configuration can be changed from the I/O Configuration in RSLogix 5000.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

Motor_Control[0] is B3:0/0 in the PanelView
Motor_Control[1] is B3:0/1 in the PanelView

0

Motor_Control[0]   Motor_Control[1]   Motor_Feedback
┤ ├   ┤/├   ( )
Motor_Feedback
┤ ├

Indicates when the motor is running or stopped
Motor_Control[2] is B3:0/2 in the PanelView

1

Motor_Feedback   Motor_Control[2]
┤ ├   ( )

Allows the operator to change the max motor speed (600 to 1800 rpm)
Motor_Speed[1] is N7:1 in the PanelView

2

```
─LIM─────────────────────                          ─MOV──────────────────────
Limit Test (CIRC)                                  Move
Low Limit            600                            Source          Motor_Speed[1]
                                                                          0 ←
Test   Motor_Speed[1]                              Dest  Simulate_Motor_Speed.PRE
                   0 ←                                                   1800 ←
High Limit          1800
```

Simulates the motor with a drive incrementing the speed

3

Motor_Feedback
┤ ├
```
                                                   ─TON──────────────────────  ─<EN>─
                                                   Timer On Delay
                                                   Timer      Simulate_Motor_Speed  ─<DN>─
                                                   Preset             1800 ←
                                                   Accum                 0 ←
```

4

Displays the current speed (0 to 1800 rpm) of the motor
Motor_Speed[0] is N7:0 in the PanelView

```
                                    ┌─MOV─────────────────────────┐
                                    │ Move                        │
                                    │ Source   Simulate_Motor_Speed.ACC │
                                    │                          0 ← │
                                    │ Dest          Motor_Speed[0] │
                                    │                          0 ← │
                                    └─────────────────────────────┘
```

5

Triggers the Hi Level Alarm when the motor speed is above 1200 rpm
Alarm[2] is B3:1/2 in the PanelView

```
┌─GEQ────────────────────┐                                    Alarms[2]
│ Grtr Than or Eql (A>=B) │                                      ─( )─
│ Source A   Motor_Speed[0] │
│                      0 ← │
│ Source B          1200  │
└─────────────────────────┘
```

6

Triggers the Hi Hi Level Alarm when the motor speed is above 1500 rpm
Alarm[1] is B3:1/1 in the PanelView

```
┌─GEQ────────────────────┐                                    Alarms[1]
│ Grtr Than or Eql (A>=B) │                                      ─( )─
│ Source A   Motor_Speed[0] │
│                      0 ← │
│ Source B          1500  │
└─────────────────────────┘
```

(End)

dnet.acd

QuickStart ControlLogix ladder logic.
The ladder logic is for a ControlLogix in slot 0 and a 1756-DNB module in slot 1 at 125 Kbaud. The 1756-DNB configuration can be changed from the I/O Configuration in RSLogix 5000.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

Local:1:I.Data[0].0 is I:0/0 in the PanelView
Local:1:I.Data[0].1 is I:0/1 in the PanelView

0

Local:1:I.Data[0].0   Local:1:I.Data[0].1   Motor_Feedback
     ] [   ]/[< >

Motor_Feedback
     ] [

Indicates when the motor is running or stopped
Local:1:O.Data[0].0 is O:0/0 in the PanelView

1

Motor_Feedback   Local:1:O.Data[0].0
     ] [< >

Allows the operator to change the max motor speed (600 to 1800 rpm)
Local:1:I.Data[1] is I:1 in the PanelView

2

```
        ┌─────LIM─────┐                              ┌─────MOV─────┐
        │ Limit Test (CIRC)                          │ Move
        │ Low Limit        600                       │ Source      Local:1:I.Data[1]
        │                                            │                          0 ←
        │ Test  Local:1:I.Data[1]                    │ Dest   Simulate_Motor_Speed.PRE
        │                    0 ←                     │                          0 ←
        │ High Limit       1800                      └─────────────┘
        └─────────────┘
```

Simulates the motor with a drive incrementing the speed

3

Motor_Feedback
     ] [

```
                                        ┌─────TON─────┐           <EN>
                                        │ Timer On Delay
                                        │ Timer      Simulate_Motor_Speed    <DN>
                                        │ Preset                      0 ←
                                        │ Accum                       0 ←
                                        └─────────────┘
```

4

Displays the current speed (0 to 1800 rpm) of the motor
Local:1:O.Data[1] is O:1 in the PanelView

```
                                                        ┌─────MOV──────────┐
                                                        │ Move             │
                                                        │ Source  Simulate_Motor_Speed.ACC │
                                                        │                 0←│
                                                        │ Dest      Local:1:O.Data[1] │
                                                        │                 0←│
                                                        └──────────────────┘
```

5

Triggers the Hi Level Alarm when the motor speed is above 1200 rpm
Local:1:O.Data[2].2 is O:2/2 in the PanelView

```
 ┌──────GEQ──────────┐                                          Local:1:O.Data[2].2
 │ Grtr Than or Eql (A>=B) │                                          ─( )─
 │ Source A   Local:1:O.Data[1] │
 │                     0←│
 │ Source B        1200 │
 └────────────────────┘
```

6

Triggers the Hi Hi Level Alarm when the motor speed is above 1500 rpm
Local:1:O.Data[2].1 is O:2/1 in the PanelView

```
 ┌──────GEQ──────────┐                                          Local:1:O.Data[2].1
 │ Grtr Than or Eql (A>=B) │                                          ─( )─
 │ Source A   Local:1:O.Data[1] │
 │                     0←│
 │ Source B        1500 │
 └────────────────────┘
```

(End)

rio.acd

QuickStart ControlLogix ladder logic.
The ladder logic is for a ControlLogix in slot 0 and a DHRIO module in slot 1. The Channel 2 of the DHRIO module is RIO at 57.6 Kbaud. The DHRIO configuration can be changed from the I/O Configuration in RSLogix 5000.
This program simulates a motor/drive being started and stopped from the PaneView. See the Quick Start manual for details.

PaneView:I.Data[0].0 is I:010/0 in the PaneView
PaneView:I.Data[0].1 is I:010/1 in the PaneView

0

PaneView:I.Data[0].0   PaneView:I.Data[0].1   Motor_Feedback
   ] [   ]/[( )
Motor_Feedback
   ] [

Indicates when the motor is running or stopped
PaneView:O.Data[0].0 is O:010/0 in the PaneView

1

Motor_Feedback   PaneView:O.Data[0].0
   ] [( )

Allows the operator to change the max motor speed (600 to 1800 rpm)
PaneView:I.Data[1] is I:011 in the PaneView

2

┌─────LIM─────┐   ┌─────MOV─────┐
│ Limit Test (CIRC)   │ Move
│ Low Limit   600   │ Source   PaneView:I.Data[1]
│   │   2#0000_0000_0000_0000 ←
│ Test   PaneView:I.Data[1]   │ Dest   Simulate_Motor_Speed.PRE
│   2#0000_0000_0000_0000 ←   │   0 ←
│ High Limit   1800   └─────────────┘
└─────────────┘

Simulates the motor with a drive incrementing the speed

3

Motor_Feedback   ┌─────TON─────┐
   ] [│ Timer On Delay   <EN>
                                                          │ Timer   Simulate_Motor_Speed <DN>
                                                          │ Preset   0 ←
                                                          │ Accum   0 ←
                                                          └─────────────┘

4

Displays the current speed (0 to 1800 rpm) of the motor
PaneView:O.Data[1] is O:011 in the PaneView

```
                                              ┌─────MOV─────────┐
                                              │Move             │
                                              │Source  Simulate_Motor_Speed.ACC│
                                              │                      0 ←│
                                              │Dest       PaneView:O.Data[1]│
                                              │        2#0000_0000_0000_0000 ←│
                                              └─────────────────┘
```

5

Triggers the Hi Level Alarm when the motor speed is above 1200 rpm
PaneView:O.Data[2].2 is O:012/2 in the PaneView

PaneView:O.Data[2].2

```
┌─────GEQ─────────┐                                                    ( )
│Grtr Than or Eql (A>=B)│
│Source A   PaneView:O.Data[1]│
│     2#0000_0000_0000_0000 ←│
│Source B              1200│
└─────────────────┘
```

6

Triggers the Hi Hi Level Alarm when the motor speed is above 1500 rpm
PaneView:O.Data[2].1 is O:012/1 in the PaneView

PaneView:O.Data[2].1

```
┌─────GEQ─────────┐                                                    ( )
│Grtr Than or Eql (A>=B)│
│Source A   PaneView:O.Data[1]│
│     2#0000_0000_0000_0000 ←│
│Source B              1500│
└─────────────────┘
```

(End)

enet.acd

QuickStart ControlLogix ladder logic.
The ladder logic is for a ControlLogix in slot 0 and a 1756-ENET EtherNet/IP module.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

0

```
      Motor_Control[0].0        Motor_Control[0].1                                              Motor_Feedback
  ┌────────] [────────────────────────]/[────────────────────────────────────────────────────────( )──────
  │   Motor_Feedback
  └────────] [──────┘
```

Indicates when the motor is running or stopped

1

```
      Motor_Feedback                                                                         Motor_Control[0].2
  ──────────] [────────────────────────────────────────────────────────────────────────────────( )──────
```

Allows the operator to change the max motor speed (600 to 1800 rpm)

2

```
  ┌─────────LIM─────────┐                      ┌────────────MOV────────────┐
  │ Limit Test (CIRC)   │                      │ Move                       │
  │ Low Limit      600  │                      │ Source          Motor_Speed[1]│
  │                     │                      │                      0 ←    │
  │ Test  Motor_Speed[1]│                      │ Dest   Simulate_Motor_Speed.PRE│
  │                0 ←  │                      │                   1800 ←   │
  │ High Limit    1800  │                      └────────────────────────────┘
  └─────────────────────┘
```

Simulates the motor with a drive incrementing the speed

3

```
      Motor_Feedback                            ┌────────────TON────────────┐      ─⟨EN⟩─
  ──────────] [──────────────────────────────── │ Timer On Delay            │
                                                 │ Timer     Simulate_Motor_Speed│  ─⟨DN⟩─
                                                 │ Preset              1800 ← │
                                                 │ Accum                  0 ← │
                                                 └────────────────────────────┘
```

Displays the current speed (0 to 1800 rpm) of the motor

4

```
                                                 ┌────────────MOV────────────┐
                                                 │ Move                       │
                                                 │ Source   Simulate_Motor_Speed.ACC│
                                                 │                      0 ←   │
                                                 │ Dest          Motor_Speed[0]│
                                                 │                      0 ←   │
                                                 └────────────────────────────┘
```

5

Triggers the Hi Level Alarm when the motor speed is above 1200 rpm

```
        ┌─GEQ──────────────────┐                              Alarms[0].2
        │ Grtr Than or Eql (A>=B)│                              ─( )─
        │ Source A   Motor_Speed[0]│
        │                  0 ←│
        │ Source B        1200 │
        └──────────────────────┘
```

6

Triggers the Hi Hi Level Alarm when the motor speed is above 1500 rpm

```
        ┌─GEQ──────────────────┐                              Alarms[0].1
        │ Grtr Than or Eql (A>=B)│                              ─( )─
        │ Source A   Motor_Speed[0]│
        │                  0 ←│
        │ Source B        1500 │
        └──────────────────────┘
```

(End)

df1.rss

QuickStart SLC-5/03 ladder logic.
The ladder logic is configured for a SLC with Channel 0 for DF1 at 9600, no parity, CRC and no handshaking.
The DF1 configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 500.
The selected controller can be changed under Controller Properties.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

0000

Starts the motor when you press the F1 key or touch the screen pushbutton
MOTOR_START
B3:0
] [
0

Stops the motor when you press the F2 keyp or touch the screen pushbutton
MOTOR_STOP
B3:0
]/[
1

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10
( )
0

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10
] [
0

0001

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10
] [
0

Indicates when the motor is running or stopped
MOTOR_STATUS_IND
B3:0
( )
2

0002

Allows the operator to change the max motor speed (600 to 1800)
MOTOR_MAX_SPEED

LIM	
Limit Test	
Low Lim	600
	600<
Test	N7:1
	0<
High Lim	1800
	1800<

Simulates the motor with a drive incrementing the speed

MOV	
Move	
Source	N7:1
	0<
Dest	T4:0.PRE
	1800<

```
                 Psuedo motor and
                 feedback. Normally                  Simulates the motor
                 would be addressed                  with a drive
                 to real inputs and                  incrementing the
                 outputs.                             speed
                    B3:10                        ┌──────TON──────────┐
      0003    ─────┤ ├─────────────────────      │ Timer On Delay    │──────⟨EN⟩
                     0                            │ Timer      T4:0   │
                                                 │ Time Base  0.01   │──────⟨DN⟩──
                                                 │ Preset    1800<   │
                                                 │ Accum        0<   │
                                                 └───────────────────┘

                                                 Displays the current
                                                 speed (0 to 1800) of
                                                 the motor
                                                 MOTOR_SPEED
                                                ┌──────MOV──────────┐
      0004    ──────────────────────────────────│ Move              │────────────
                                                │ Source   T4:0.ACC │
                                                │              0<   │
                                                │ Dest       N7:0   │
                                                │              0<   │
                                                └───────────────────┘

             Displays the current                Triggers an alarm
             speed (0 to 1800) of                 when the motor speed
             the motor                            exceeds 1200 rpm.
             MOTOR_SPEED                          ALARM_HI_SPEED
            ┌──────GEQ──────────────┐                   B3:1
      0005  │ Grtr Than or Eql (A>=B)│──────────────────⟨ ⟩
            │ Source A       N7:0   │                    2
            │                  0<   │
            │ Source B       1200   │
            │               1200<   │
            └───────────────────────┘

             Displays the current                Triggers an alarm
             speed (0 to 1800) of                 when the motor speed
             the motor                            exceeds 1500 rpm.
             MOTOR_SPEED                          ALARM_HI_HI_SPEED
            ┌──────GEQ──────────────┐                   B3:1
      0006  │ Grtr Than or Eql (A>=B)│──────────────────⟨ ⟩
            │ Source A       N7:0   │                    1
            │                  0<   │
            │ Source B       1500   │
            │               1500<   │
            └───────────────────────┘


      0007  ────────────────────────────────────────────────────⟨END⟩──
```

df1.rss (for MicroLogix family)

QuickStart MicroLogix ladder logic.
The ladder logic is for a MicroLogix with the channel configured for DF1 at 9600 baud. The DF1 configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 500 and the controller selection under Controller Properties.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

```
                Starts the motor              Stops the motor when            Psuedo motor and
                when you press the            you press the F2               feedback. Normally
                F1 key or touch the           keyp or touch the             would be addressed
                screen pushbutton             screen pushbutton             to real inputs and
                MOTOR_START                   MOTOR_STOP                    outputs.
                  B3:0                          B3:0                          B3:10
0000   ──────────┤ ├──────┬───────────────────┤/├──────────────────────────────( )──────────
                   0       │                     1                             0
                           │
                Psuedo motor and
                feedback. Normally
                would be addressed
                to real inputs and
                outputs.
                  B3:10
                ──┤ ├──────┘
                   0
```

```
       Psuedo motor and                                      Indicates when the
       feedback. Normally                                    motor is running or
       would be addressed                                    stopped
       to real inputs and                                    MOTOR_STATUS_IND
       outputs.                                                B3:0
         B3:10
0001   ───┤ ├───────────────────────────────────────────────────( )─────────────
            0                                                      2
```

```
       Allows the operator                                   Simulates the motor
       to change the max                                     with a drive
       motor speed (600 to                                   incrementing the
       1800)                                                 speed
       MOTOR_MAX_SPEED                                       ─────MOV──────
              ─────LIM──────                                 │ Move         │
0002   ───────│ Limit Test   │──────────────────────────────│ Source   N7:1│──
              │ Low Lim    600│                              │            0<│
              │           600<│                              │ Dest  T4:0.PRE│
              │ Test      N7:1│                              │          1800<│
              │             0<│                              └──────────────┘
              │ High Lim  1800│
              │          1800<│
              └──────────────┘
```

```
                  Psuedo motor and
                  feedback. Normally                   Simulates the motor
                  would be addressed                   with a drive
                  to real inputs and                   incrementing the
                  outputs.                              speed
                       B3:10                            ┌───────TON─────────┐
0003     ─────────────┤ ├──────────────────────────────┤ Timer On Delay    ├──(EN)──
                        0                               │ Timer        T4:0  │
                                                        │ Time Base    0.01  │──(DN)──
                                                        │ Preset      1800<  │
                                                        │ Accum          0<  │
                                                        └────────────────────┘

                                                        Displays the current
                                                        speed (0 to 1800) of
                                                        the motor
                                                        MOTOR_SPEED
                                                        ┌───────MOV─────────┐
0004     ───────────────────────────────────────────────┤ Move              ├────
                                                        │ Source    T4:0.ACC │
                                                        │                 0< │
                                                        │ Dest         N7:0  │
                                                        │                 0< │
                                                        └────────────────────┘

         Displays the current                          Triggers an alarm
         speed (0 to 1800) of                          when the motor speed
         the motor                                     exceeds 1200 rpm.
         MOTOR_SPEED                                   ALARM_HI_SPEED
         ┌───────GEQ─────────┐                          B3:1
0005     ─┤ Grtr Than or Eql (A>=B)├─────────────────────( )──
         │ Source A      N7:0 │                           2
         │                 0< │
         │ Source B      1200 │
         │              1200< │
         └────────────────────┘

         Displays the current                          Triggers an alarm
         speed (0 to 1800) of                          when the motor speed
         the motor                                     exceeds 1500 rpm.
         MOTOR_SPEED                                   ALARM_HI_HI_SPEED
         ┌───────GEQ─────────┐                          B3:1
0006     ─┤ Grtr Than or Eql (A>=B)├─────────────────────( )──
         │ Source A      N7:0 │                           1
         │                 0< │
         │ Source B      1500 │
         │              1500< │
         └────────────────────┘

0007     ──────────────────────────────────────────────────(END)──
```

dh485.rss

QuickStart SLC-5/03, 5/04, 5/05 ladder logic.
The ladder logic is configured for a SLC-5/03 with Channel 1 for DH485 at 19200 baud. The SLC controller
selection can be changed under Controller Properties in RSLogix 500.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual
for details.

Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP		Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

0000
```
   B3:0                    B3:0                              B3:10
    ] [                     ]/[                               ( )
     0                       1                                 0
```

Psuedo motor and
feedback. Normally
would be addressed
to real inputs and
outputs.
```
   B3:10
    ] [
     0
```

Psuedo motor and
feedback. Normally
would be addressed
to real inputs and
outputs.   Indicates when the
                                            motor is running or
                                            stopped
B3:10   MOTOR_STATUS_IND
                                            B3:0

0001
```
   B3:10                                    ( )
    ] [                                      2
     0
```

Allows the operator
to change the max
motor speed (600 to   Simulates the motor
1800)   with a drive
MOTOR_MAX_SPEED   incrementing the
                             speed

0002
```
 ┌──── LIM ────────────┐         ┌──── MOV ────────────┐
 │ Limit Test          │         │ Move                │
 │ Low Lim      600    │         │ Source       N7:1   │
 │             600<    │         │               0<    │
 │ Test         N7:1   │         │ Dest      T4:0.PRE  │
 │               0<    │         │            1800<    │
 │ High Lim     1800   │         └─────────────────────┘
 │             1800<   │
 └─────────────────────┘
```

```
                 Psuedo motor and
                 feedback.  Normally              Simulates the motor
                 would be addressed               with a drive
                 to real inputs and               incrementing the
                 outputs.                          speed
                      B3:10                      ┌─TON ──────────────────┐
0003          ──────┤ ├──────────               │ Timer On Delay          │──────⟨EN⟩──────
                       0                          │ Timer            T4:0   │
                                                  │ Time Base        0.01   │──────⟨DN⟩──────
                                                  │ Preset          1800<   │
                                                  │ Accum              0<   │
                                                  └─────────────────────────┘

                                                  Displays the current
                                                  speed (0 to 1800) of
                                                  the motor
                                                  MOTOR_SPEED
                                                ┌─MOV ──────────────────┐
0004          ──────────────────────────────── │ Move                    │──────
                                                  │ Source       T4:0.ACC  │
                                                  │                   0<    │
                                                  │ Dest            N7:0    │
                                                  │                   0<    │
                                                  └─────────────────────────┘

             Displays the current               Triggers an alarm
             speed (0 to 1800) of                when the motor speed
             the motor                           exceeds 1200 rpm.
             MOTOR_SPEED                         ALARM_HI_SPEED
           ┌─GEQ ──────────────────┐                  B3:1
0005       │ Grtr Than or Eql (A>=B) │────────────────⟨ ⟩──────────
           │ Source A         N7:0   │                  2
           │                    0<   │
           │ Source B         1200   │
           │                 1200<   │
           └─────────────────────────┘

             Displays the current               Triggers an alarm
             speed (0 to 1800) of                when the motor speed
             the motor                           exceeds 1500 rpm.
             MOTOR_SPEED                         ALARM_HI_HI_SPEED
           ┌─GEQ ──────────────────┐                  B3:1
0006       │ Grtr Than or Eql (A>=B) │────────────────⟨ ⟩──────────
           │ Source A         N7:0   │                  1
           │                    0<   │
           │ Source B         1500   │
           │                 1500<   │
           └─────────────────────────┘


0007       ──────────────────────────────────────────────────────⟨END⟩──────
```

dh485.rss (for MicroLogix family)

QuickStart MicroLogix ladder logic.
The ladder logic is for a MicroLogix 1000 with the channel configured for DH485 at 19200 baud. The
MicroLogix controller selection can be changed under Controller Properties in RSLogix 500.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual
for details.

```
                  Starts the motor          Stops the motor when                         Psuedo motor and
                  when you press the         you press the F2                             feedback.  Normally
                  F1 key or touch the        keyp or touch the                            would be addressed
                  screen pushbutton          screen pushbutton                            to real inputs and
                  MOTOR_START                MOTOR_STOP                                   outputs.
                  B3:0                       B3:0                                         B3:10
  0000            ] [                        ]/[                                          ( )
                   0                          1                                            0

                  Psuedo motor and
                  feedback.  Normally
                  would be addressed
                  to real inputs and
                  outputs.
                  B3:10
                  ] [
                   0


                  Psuedo motor and                                          Indicates when the
                  feedback.  Normally                                       motor is running or
                  would be addressed                                        stopped
                  to real inputs and                                        MOTOR_STATUS_IND
                  outputs.                                                   B3:0
                  B3:10                                                      ( )
  0001            ] [                                                         2
                   0


                  Allows the operator                                       Simulates the motor
                  to change the max                                         with a drive
                  motor speed (600 to                                       incrementing the
                  1800)                                                     speed
                  MOTOR_MAX_SPEED                                            ┌── MOV ──┐
                  ┌── LIM ──────────┐                                       │ Move    │
  0002            │ Limit Test      │                                       │ Source    N7:1 │
                  │ Low Lim     600 │                                       │             0< │
                  │            600< │                                       │ Dest   T4:0.PRE │
                  │ Test       N7:1 │                                       │          1800< │
                  │              0< │                                       └──────────┘
                  │ High Lim   1800 │
                  │           1800< │
                  └─────────────────┘
```

```
                  Psuedo motor and
                  feedback. Normally               Simulates the motor
                  would be addressed               with a drive
                  to real inputs and               incrementing the
                  outputs.                          speed
                  B3:10                           ┌─TON ──────────────────┐
0003      ────────┤↑├────────                     │ Timer On Delay        │──(EN)──
                    0                             │ Timer          T4:0   │
                                                  │ Time Base      0.01   │──(DN)──
                                                  │ Preset         1800<  │
                                                  │ Accum             0<  │
                                                  └───────────────────────┘

                                                  Displays the current
                                                  speed (0 to 1800) of
                                                  the motor
                                                  MOTOR_SPEED
                                                 ┌─MOV ──────────────────┐
0004      ──────────────────────────────────────│ Move                   │──────
                                                 │ Source      T4:0.ACC   │
                                                 │                    0<  │
                                                 │ Dest          N7:0     │
                                                 │                    0<  │
                                                 └────────────────────────┘

          Displays the current                   Triggers an alarm
          speed (0 to 1800) of                   when the motor speed
          the motor                              exceeds 1200 rpm.
          MOTOR_SPEED                            ALARM_HI_SPEED
         ┌─GEQ ──────────────────┐                B3:1
0005     │ Grtr Than or Eql (A>=B) │────────────────( )──────
         │ Source A       N7:0    │                 2
         │                    0<  │
         │ Source B       1200    │
         │                 1200<  │
         └─────────────────────────┘

          Displays the current                   Triggers an alarm
          speed (0 to 1800) of                   when the motor speed
          the motor                              exceeds 1500 rpm.
          MOTOR_SPEED                            ALARM_HI_HI_SPEED
         ┌─GEQ ──────────────────┐                B3:1
0006     │ Grtr Than or Eql (A>=B) │────────────────( )──────
         │ Source A       N7:0    │                 1
         │                    0<  │
         │ Source B       1500    │
         │                 1500<  │
         └─────────────────────────┘


0007      ────────────────────────────────────────────────────(END)──
```

dhp.rss

QuickStart SLC-5/04 ladder logic.
The ladder logic is configured for a SLC with Channel 1 for DH+ at 57.6Kbaud. The DH+ configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 500.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

```
            Starts the motor            Stops the motor when                            Psuedo motor and
            when you press the          you press the F2                                feedback.  Normally
            F1 key or touch the         keyp or touch the                               would be addressed
            screen pushbutton           screen pushbutton                               to real inputs and
            MOTOR_START                 MOTOR_STOP                                      outputs.
            B3:0                        B3:0                                            B3:10
0000    ────┤ ├──────────────────────────┤/├──────────────────────────────────────────( )────
            0                           1                                               0

            Psuedo motor and
            feedback.  Normally
            would be addressed
            to real inputs and
            outputs.
            B3:10
        ────┤ ├────
            0
```

```
            Psuedo motor and                                Indicates when the
            feedback.  Normally                             motor is running or
            would be addressed                              stopped
            to real inputs and                              MOTOR_STATUS_IND
            outputs.                                        B3:0
            B3:10
0001    ────┤ ├────────────────────────────────────────────( )────
            0                                               2
```

```
            Allows the operator                             Simulates the motor
            to change the max                               with a drive
            motor speed (600 to                             incrementing the
            1800)                                           speed
            MOTOR_MAX_SPEED
            ┌──── LIM ─────────────┐                        ┌──── MOV ──────────────┐
            │ Limit Test           │                        │ Move                  │
0002        │ Low Lim      600     │                        │ Source        N7:1    │
            │              600<    │                        │               0<      │
            │ Test         N7:1    │                        │ Dest       T4:0.PRE   │
            │              0<      │                        │             1800<     │
            │ High Lim     1800    │                        └───────────────────────┘
            │              1800<   │
            └──────────────────────┘
```

```
                  Psuedo motor and
                  feedback.  Normally          Simulates the motor
                  would be addressed           with a drive
                  to real inputs and           incrementing the
                  outputs.                     speed
                    B3:10                          ┌─TON ──────────────────┐
  0003 ├──────────┤ ├────────────────────────────┤ Timer On Delay         ├──⟨EN⟩──────
                    0                            │ Timer          T4:0     │
                                                 │ Time Base      0.01     ├──⟨DN⟩──
                                                 │ Preset         1800<     │
                                                 │ Accum            0<      │
                                                 └────────────────────────┘

                                                 Displays the current
                                                 speed (0 to 1800) of
                                                 the motor
                                                 MOTOR_SPEED
                                                     ┌─MOV ──────────────┐
  0004 ├──────────────────────────────────────────┤ Move               ├────────
                                                   │ Source    T4:0.ACC  │
                                                   │                0<   │
                                                   │ Dest        N7:0    │
                                                   │                0<   │
                                                   └────────────────────┘

       Displays the current                       Triggers an alarm
       speed (0 to 1800) of                       when the motor speed
       the motor                                  exceeds 1200 rpm.
       MOTOR_SPEED                                 ALARM_HI_SPEED
        ┌─GEQ ─────────────────┐                      B3:1
  0005 ├┤ Grtr Than or Eql (A>=B) ├────────────────────⟨ ⟩────────────
       │ Source A        N7:0   │                       2
       │                  0<    │
       │ Source B        1200   │
       │                 1200<  │
       └──────────────────────┘

       Displays the current                       Triggers an alarm
       speed (0 to 1800) of                       when the motor speed
       the motor                                  exceeds 1500 rpm.
       MOTOR_SPEED                                 ALARM_HI_HI_SPEED
        ┌─GEQ ─────────────────┐                      B3:1
  0006 ├┤ Grtr Than or Eql (A>=B) ├────────────────────⟨ ⟩────────────
       │ Source A        N7:0   │                       1
       │                  0<    │
       │ Source B        1500   │
       │                 1500<  │
       └──────────────────────┘


  0007 ├──────────────────────────────────────────────────────⟨END⟩──
```

dnet.rss

QuickStart SLC-5/03 ladder logic.
The ladder logic is configured for a SLC with a 1747-SDN DeviceNet Scanner in slot 1 at 125Kbaud. The 1747-SDN configuration can be changed from the I/O Configuration under Project/Controller in RSLogix 500. The controller selection can be changed under Controller Properties.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

0000

Starts the motor when you press the F1 key or touch the screen pushbutton
MOTOR_START
I:1
] [
16
1747-SDN

Stops the motor when you press the F2 keyp or touch the screen pushbutton
MOTOR_STOP
I:1
]/[
17
1747-SDN

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10
< >
0

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10
] [
0

Indicates when the motor is running or stopped
MOTOR_STATUS_IND
O:1
< >
16
1747-SDN

0001

Allows the operator to change the max motor speed (600 to 1800)
MOTOR_MAX_SPEED

```
-------LIM-------
Limit Test
Low Lim        600
               600<
Test         I:1.2
                 0<
High Lim      1800
              1800<
```

Simulates the motor with a drive incrementing the speed

```
-------MOV-------
Move
Source       I:1.2
                 0<
Dest     T4:0.PRE
             1800<
```

0002

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10
] [
0

Simulates the motor with a drive incrementing the speed

```
-------TON-------
Timer On Delay            (EN)
Timer          T4:0
Time Base      0.01       (DN)
Preset        1800<
Accum            0<
```

```
                                                      Displays the current
                                                      speed (0 to 1800) of
                                                      the motor
                                                      MOTOR_SPEED
                                                       ┌────MOV ────────┐
 0003 ──────────────────────────────────────────────── Move            │
                                                       │ Source   T4:0.ACC │
                                                       │              0<  │
                                                       │ Dest       O:1.2 │
                                                       │              0<  │
                                                       └─────────────────┘

      Displays the current                           Triggers an alarm
      speed (0 to 1800) of                            when the motor speed
      the motor                                       exceeds 1200 rpm.
      MOTOR_SPEED                                     ALARM_HI_SPEED
       ┌────GEQ ─────────────┐                             O:1
 0004 ─┤ Grtr Than or Eql (A>=B) ├───────────────────────( )──────
       │ Source A        O:1.2   │                          50
       │                  0<     │                       1747-SDN
       │ Source B        1200    │
       │                 1200<   │
       └─────────────────────────┘

      Displays the current                           Triggers an alarm
      speed (0 to 1800) of                            when the motor speed
      the motor                                       exceeds 1500 rpm.
      MOTOR_SPEED                                     ALARM_HI_HI_SPEED
       ┌────GEQ ─────────────┐                             O:1
 0005 ─┤ Grtr Than or Eql (A>=B) ├───────────────────────( )──────
       │ Source A        O:1.2   │                          49
       │                  0<     │                       1747-SDN
       │ Source B        1500    │
       │                 1500<   │
       └─────────────────────────┘

 0006 ───────────────────────────────────────────────────( END )──
```

rio.rss

QuickStart SLC-5/03 ladder logic.
The ladder logic is configured for a SLC with a 1747-SN Remote I/O Scanner in slot 1 at 57.6Kbaud. The
1747-SN configuration can be changed from the I/O Configuration under Project/Controller in RSLogix 500. The
controller selection can be changed under Controller Properties.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual
for details.

Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP	Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

0000

```
        I:1                    I:1                         B3:10
      ─┤ ├─                 ─┤/├─                         ─( )─
         8                      9                            0
      1747-SN                1747-SN
```

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
```
        B3:10
      ─┤ ├─
         0
```

Indicates when the motor is running or stopped
MOTOR_STATUS_IND
```
        O:1
      ─( )─
         8
      1747-SN
```

Allows the operator to change the max motor speed (600 to 1800)
MOTOR_MAX_SPEED

Simulates the motor with a drive incrementing the speed

0001

```
        ┌─────LIM─────────┐                    ┌─────MOV─────────┐
        │ Limit Test      │                    │ Move            │
        │ Low Lim    600  │                    │ Source    I:1.1 │
        │            600< │                    │             0<  │
        │ Test      I:1.1 │                    │ Dest   T4:0.PRE │
        │             0<  │                    │           1800< │
        │ High Lim   1800 │                    └─────────────────┘
        │           1800< │
        └─────────────────┘
```

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

Simulates the motor with a drive incrementing the speed

0002

```
        B3:10                                 ┌─────TON─────────┐
      ─┤ ├─────────────────────────────────  │ Timer On Delay  │──(EN)─
         0                                    │ Timer      T4:0 │
                                              │ Time Base  0.01 │──(DN)─
                                              │ Preset    1800< │
                                              │ Accum       0<  │
                                              └─────────────────┘
```

```
                                                      Displays the current
                                                      speed (0 to 1800) of
                                                      the motor
                                                      MOTOR_SPEED
                                                       ┌──────MOV──────┐
0003 ─────────────────────────────────────────────────┤ Move          │────
                                                       │ Source T4:0.ACC│
                                                       │            0<  │
                                                       │ Dest      O:1.1│
                                                       │            0<  │
                                                       └───────────────┘

     Displays the current                              Triggers an alarm
     speed (0 to 1800) of                              when the motor speed
     the motor                                         exceeds 1200 rpm.
     MOTOR_SPEED                                        ALARM_HI_SPEED
      ┌──────GEQ──────┐                                     O:1
0004 ─┤ Grtr Than or Eql (A>=B)│────────────────────────────( )────
      │ Source A    O:1.1│                                   34
      │            0<  │                                  1747-SN
      │ Source B    1200│
      │          1200< │
      └───────────────┘

     Displays the current                              Triggers an alarm
     speed (0 to 1800) of                              when the motor speed
     the motor                                         exceeds 1500 rpm.
     MOTOR_SPEED                                        ALARM_HI_HI_SPEED
      ┌──────GEQ──────┐                                     O:1
0005 ─┤ Grtr Than or Eql (A>=B)│────────────────────────────( )────
      │ Source A    O:1.1│                                   33
      │            0<  │                                  1747-SN
      │ Source B    1500│
      │          1500< │
      └───────────────┘


0006 ──────────────────────────────────────────────────────( END )───
```

enet.rss

QuickStart SLC-5/05 ladder logic.
The ladder logic is configured for a SLC with Channel 1 for Enet. The ENet configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 500.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP	Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:0	B3:0	B3:10

0000   ─] [─   ─]/[─   ─( )─
        0   1   0

Psuedo motor and
feedback. Normally
would be addressed
to real inputs and
outputs.
        B3:10
       ─] [─
         0

Psuedo motor and   Indicates when the
feedback. Normally   motor is running or
would be addressed   stopped
to real inputs and   MOTOR_STATUS_IND
outputs.
        B3:10   B3:0
0001   ─] [─   ─( )─
         0   2

Allows the operator   Simulates the motor
to change the max   with a drive
motor speed (600 to   incrementing the
1800)   speed
MOTOR_MAX_SPEED

0002
```
        ┌─────LIM─────────┐              ┌─────MOV─────────┐
        │ Limit Test      │              │ Move            │
        │ Low Lim    600  │              │ Source    N7:1  │
        │            600< │              │             0<  │
        │ Test      N7:1  │              │ Dest   T4:0.PRE │
        │             0<  │              │          1800<  │
        │ High Lim   1800 │              └─────────────────┘
        │           1800< │
        └─────────────────┘
```

Psuedo motor and
feedback. Normally
would be addressed
to real inputs and
outputs.

Simulates the motor
with a drive
incrementing the
speed

```
        B3:10                                    ─TON─────────────
0003    ─┘ └─                                    │ Timer On Delay         ─(EN)─
          0                                      │ Timer          T4:0
                                                 │ Time Base      0.01     ─(DN)─
                                                 │ Preset         1800<
                                                 │ Accum             0<
                                                 ──────────────────
```

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

```
                                                 ─MOV─────────────
0004                                             │ Move
                                                 │ Source     T4:0.ACC
                                                 │               0<
                                                 │ Dest          N7:0
                                                 │               0<
                                                 ──────────────────
```

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

Triggers an alarm
when the motor speed
exceeds 1200 rpm.
ALARM_HI_SPEED
B3:1

```
        ─GEQ──────────────                                    ─( )─
0005    │ Grtr Than or Eql (A>=B)                               2
        │ Source A       N7:0
        │                  0<
        │ Source B       1200
        │                1200<
        ──────────────────
```

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

Triggers an alarm
when the motor speed
exceeds 1500 rpm.
ALARM_HI_HI_SPEED
B3:1

```
        ─GEQ──────────────                                    ─( )─
0006    │ Grtr Than or Eql (A>=B)                               1
        │ Source A       N7:0
        │                  0<
        │ Source B       1500
        │                1500<
        ──────────────────
```

```
0007                                                          ─(END)─
```

modbus.rss (for MicroLogix family)

QuickStart MicroLogix ladder logic.
The ladder logic is for a MicroLogix with the channel 1 configured for Modbus-RTU-Slave. The Modbus configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 500 and the controller selection under Controller Properties.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

```
                  Starts the motor        Stops the motor when                              Psuedo motor and
                  when you press the       you press the F2                                  feedback. Normally
                  F1 key or touch the      keyp or touch the                                would be addressed
                  screen pushbutton        screen pushbutton                                to real inputs and
                  MOTOR_START              MOTOR_STOP                                        outputs.
                  B3:0                     B3:0                                              B3:10
  0000   ─────────] [──────┬──────────────]/[──────────────────────────────────────────────( )───────────
                    0       │                1                                                0
                            │   Psuedo motor and
                            │   feedback. Normally
                            │   would be addressed
                            │   to real inputs and
                            │   outputs.
                            │   B3:10
                            └──────] [────
                                      0


                  Psuedo motor and                                              Indicates when the
                  feedback. Normally                                            motor is running or
                  would be addressed                                            stopped
                  to real inputs and                                            MOTOR_STATUS_IND
                  outputs.                                                      B3:0
                  B3:10                                                         B3:0
  0001   ─────────] [──────────────────────────────────────────────────────────────────────( )───────────
                    0                                                                         2


                  Allows the operator                                           Simulates the motor
                  to change the max                                             with a drive
                  motor speed (600 to                                           incrementing the
                  1800)                                                         speed
                  MOTOR_MAX_SPEED                                               ┌─────MOV─────┐
                 ┌─────LIM─────┐                                               │ Move        │
  0002   ────────│ Limit Test  │───────────────────────────────────────────────│ Source  N7:1│
                 │ Low Lim  600│                                               │        1800<│
                 │        600< │                                               │ Dest T4:0.PRE│
                 │ Test   N7:1 │                                               │        1800<│
                 │       1800< │                                               └─────────────┘
                 │ High Lim 1800│
                 │       1800< │
                 └─────────────┘
```

Psuedo motor and
feedback. Normally
would be addressed
to real inputs and
outputs.

Simulates the motor
with a drive
incrementing the
speed

0003

B3:10
] [
0

```
-TON-
Timer On Delay              (EN)
Timer            T4:0
Time Base        0.01       (DN)
Preset           1800<
Accum            1800<
```

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

0004

```
-MOV-
Move
Source      T4:0.ACC
                 1800<
Dest            N7:0
                 1800<
```

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

Triggers an alarm
when the motor speed
exceeds 1500 rpm.
ALARM_HI_SPEED
B3:1

0005

```
-GEQ-
Grtr Than or Eql (A>=B)
Source A         N7:0
                 1800<
Source B         1200
                 1200<
```

( )
2

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

Triggers an alarm
when the motor speed
exceeds 1500 rpm.
ALARM_HI_HI_SPEED
B3:1

0006

```
-GEQ-
Grtr Than or Eql (A>=B)
Source A         N7:0
                 1800<
Source B         1500
                 1500<
```

( )
1

0007

(END)

cnet.rsp

QuickStart PLC-5 ladder logic.
The ladder logic is configured for a PLC-5/40C.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP	Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

```
                 MOTOR_START              MOTOR_STOP                                    B3:10
                    B3:0                      B3:0                                       ( )
0000       ┤ ├                        ┤/├                                        
                     0                         1                                          0

          Psuedo motor and                                          Indicates when the
          feedback.  Normally                                       motor is running or
          would be addressed                                        stopped
          to real inputs and                                        MOTOR_STATUS_IND
          outputs.                                                       B3:0
              B3:10                                                      ( )
            ┤ ├                                                        
                0                                                           2
```

Allows the operator to change the max motor speed (600 to 1800)
MOTOR_MAX_SPEED

```
                  ┌────LIM────┐                              ┌────MOV────┐
0001              │Limit Test  │                              │Move        │
                  │Low Lim   600│                             │Source   N7:1│
                  │         600<│                             │          0< │
                  │Test     N7:1│                             │Dest  T4:0.PRE│
                  │          0< │                             │        1800<│
                  │High Lim 1800│                             └────────────┘
                  │        1800<│
                  └────────────┘
```

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

Simulates the motor with a drive incrementing the speed

```
              B3:10                      ┌────TON────┐
0002        ┤ ├                         │Timer On Delay│      (EN)
                0                         │Timer    T4:0 │
                                          │Time Base 0.01│      (DN)
                                          │Preset   1800<│
                                          │Accum      0< │
                                          └────────────┘
```

0003

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED
```
-----MOV ---------
Move
Source     T4:0.ACC
                 0<
Dest         N7:0
                 0<
```

0004

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED
```
-----GEQ ---------
Grtr Than or Eql (A>=B)
Source A        N7:0
                  0<
Source B        1200
               1200<
```

Triggers an alarm
when the motor speed
exceeds 1200 rpm.
ALARM_HI_SPEED
B3:1
< >
2

0005

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED
```
-----GEQ ---------
Grtr Than or Eql (A>=B)
Source A        N7:0
                  0<
Source B        1500
               1500<
```

Triggers an alarm
when the motor speed
exceeds 1500 rpm.
ALARM_HI_HI_SPEED
B3:1
< >
1

0006

(END)

dhp_df1.rsp

QuickStart PLC-5 ladder logic.
The ladder logic is configured for a PLC-5/40 with Channel 1A for DH+ at 57.6Kbaud and Channel 0 for DF1 at 9600, no parity, CRC and no handshaking. The DH+ and DF1 configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 5.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP	Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

```
         B3:0                          B3:0                                          B3:10
0000    ─┤ ├─                         ─┤/├─                                          ─( )─
          0                            1                                              0

         Psuedo motor and                                      Indicates when the
         feedback.  Normally                                   motor is running or
         would be addressed                                    stopped
         to real inputs and                                    MOTOR_STATUS_IND
         outputs.                                              B3:0
         B3:10                                                 ─( )─
        ─┤ ├─                                                  2
         0
```

Allows the operator to change the max motor speed (600 to 1800)
MOTOR_MAX_SPEED

```
         ┌────LIM────────────┐                              ┌────MOV─────────────┐
0001     │ Limit Test        │                              │ Move               │
         │ Low Lim     600    │                              │ Source      N7:1   │
         │             600<   │                              │             0<     │
         │ Test        N7:1   │                              │ Dest    T4:0.PRE   │
         │             0<     │                              │             1800<  │
         │ High Lim    1800   │                              └────────────────────┘
         │             1800<  │
         └────────────────────┘
```

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

Simulates the motor with a drive incrementing the speed

```
         B3:10                                   ┌────TON─────────────┐
0002    ─┤ ├─                                    │ Timer On Delay     │──(EN)──
         0                                       │ Timer       T4:0   │
                                                 │ Time Base   0.01   │──(DN)──
                                                 │ Preset      1800<  │
                                                 │ Accum       0<     │
                                                 └────────────────────┘
```

0003

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED
```
---- MOV ----
Move
Source    T4:0.ACC
                0<
Dest      N7:0
                0<
```

0004

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED
```
---- GEQ ----
Grtr Than or Eql (A>=B)
Source A    N7:0
                0<
Source B    1200
            1200<
```

Triggers an alarm
when the motor speed
exceeds 1200 rpm.
ALARM_HI_SPEED
B3:1
—( )—
2

0005

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED
```
---- GEQ ----
Grtr Than or Eql (A>=B)
Source A    N7:0
                0<
Source B    1500
            1500<
```

Triggers an alarm
when the motor speed
exceeds 1500 rpm.
ALARM_HI_HI_SPEED
B3:1
—( )—
1

0006

—(END)—

dnet.rsp

QuickStart PLC-5 ladder logic.
The ladder logic is configured for a PLC-5/40 with a 1771-SDN in the first slot (slot 0).
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.

```
            BT11:0      BT11:1                    ┌─BTW ───────────────────────┐
0000        ─┘/├─       ─┘/├─                     │ Block Transfer Write       │──(EN)──
              EN          EN                      │ Module Type  Generic Block Transfer
                                                  │ Rack                    000│──(DN)──
                                                  │ Group                     0│
                                                  │ Module                    0│──(ER)──
                                                  │ Control Block         BT11:0│
                                                  │ Data File              N10:0│
                                                  │ Length                    3│
                                                  │ Continuous               No│
                                                  └────────────────────────────┘

            BT11:0      BT11:1                    ┌─BTR ───────────────────────┐
0001        ─┘/├─       ─┘/├─                     │ Block Transfer Read        │──(EN)──
              EN          EN                      │ Module Type  Generic Block Transfer
                                                  │ Rack                    000│──(DN)──
                                                  │ Group                     0│
                                                  │ Module                    0│──(ER)──
                                                  │ Control Block         BT11:1│
                                                  │ Data File               N9:0│
                                                  │ Length                    2│
                                                  │ Continuous               No│
                                                  └────────────────────────────┘
```

Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP	Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

```
              N9:1                    N9:1                              B3:10
0002        ─┤ ├─                    ─┤/├─                             ─( )──
               0                       1                                 0

              B3:10                                                    N10:1
            ─┤ ├─                                                     ─( )──
               0                                                        0
```

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.
B3:10

Indicates when the motor is running or stopped
MOTOR_STATUS_IND
N10:1

0003

Allows the operator
to change the max
motor speed (600 to
1800)
MOTOR_MAX_SPEED

```
┌──────LIM──────┐
│ Limit Test    │
│ Low Lim    600│
│           600<│
│ Test      N9:2│
│             0<│
│ High Lim  1800│
│          1800<│
└───────────────┘
```

```
┌──────MOV──────┐
│ Move          │
│ Source    N9:2│
│             0<│
│ Dest  T4:0.PRE│
│          1800<│
└───────────────┘
```

0004

Psuedo motor and
feedback. Normally
would be addressed
to real inputs and
outputs.

B3:10
┤ ├
0

Simulates the motor
with a drive
incrementing the
speed

```
┌──────TON──────┐
│ Timer On Delay│──(EN)──
│ Timer     T4:0│
│ Time Base 0.01│──(DN)──
│ Preset   1800<│
│ Accum      0< │
└───────────────┘
```

0005

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

```
┌──────MOV──────┐
│ Move          │
│ Source T4:0.ACC│
│             0<│
│ Dest     N10:2│
│             0<│
└───────────────┘
```

0006

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

```
        ┌───── GEQ ─────┐
        │ Grtr Than or Eql (A>=B) │
        │ Source A       N10:2    │
        │                    0<    │
        │ Source B       1200     │
        │                 1200<    │
        └─────────────────┘
```

Triggers an alarm
when the motor speed
exceeds 1200 rpm.
ALARM_HI_SPEED
N10:3
◇
2

0007

Displays the current
speed (0 to 1800) of
the motor
MOTOR_SPEED

```
        ┌───── GEQ ─────┐
        │ Grtr Than or Eql (A>=B) │
        │ Source A       N10:2    │
        │                    0<    │
        │ Source B       1500     │
        │                 1500<    │
        └─────────────────┘
```

Triggers an alarm
when the motor speed
exceeds 1500 rpm.
ALARM_HI_HI_SPEED
N10:3
◇
1

0008   ⟨END⟩

rio.rsp

QuickStart PLC-5 ladder logic.
The ladder logic is configured for a PLC-5/40 with Channel 1B for Remote I/O at 57.6Kbaud. The PanelView is Rack 1 Groups 0-3. The Remote I/O configuration can be changed from the Channel Configuration under Project/Controller in RSLogix 5.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.
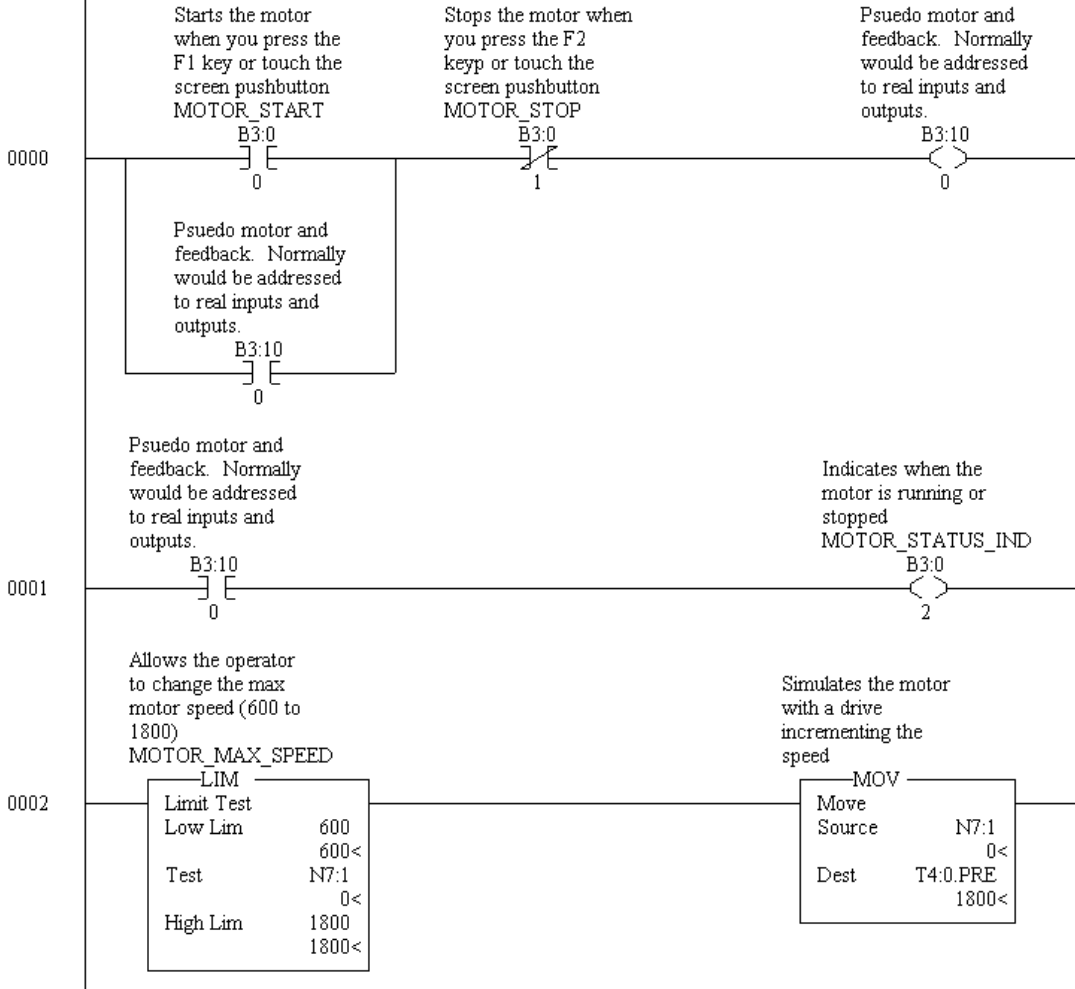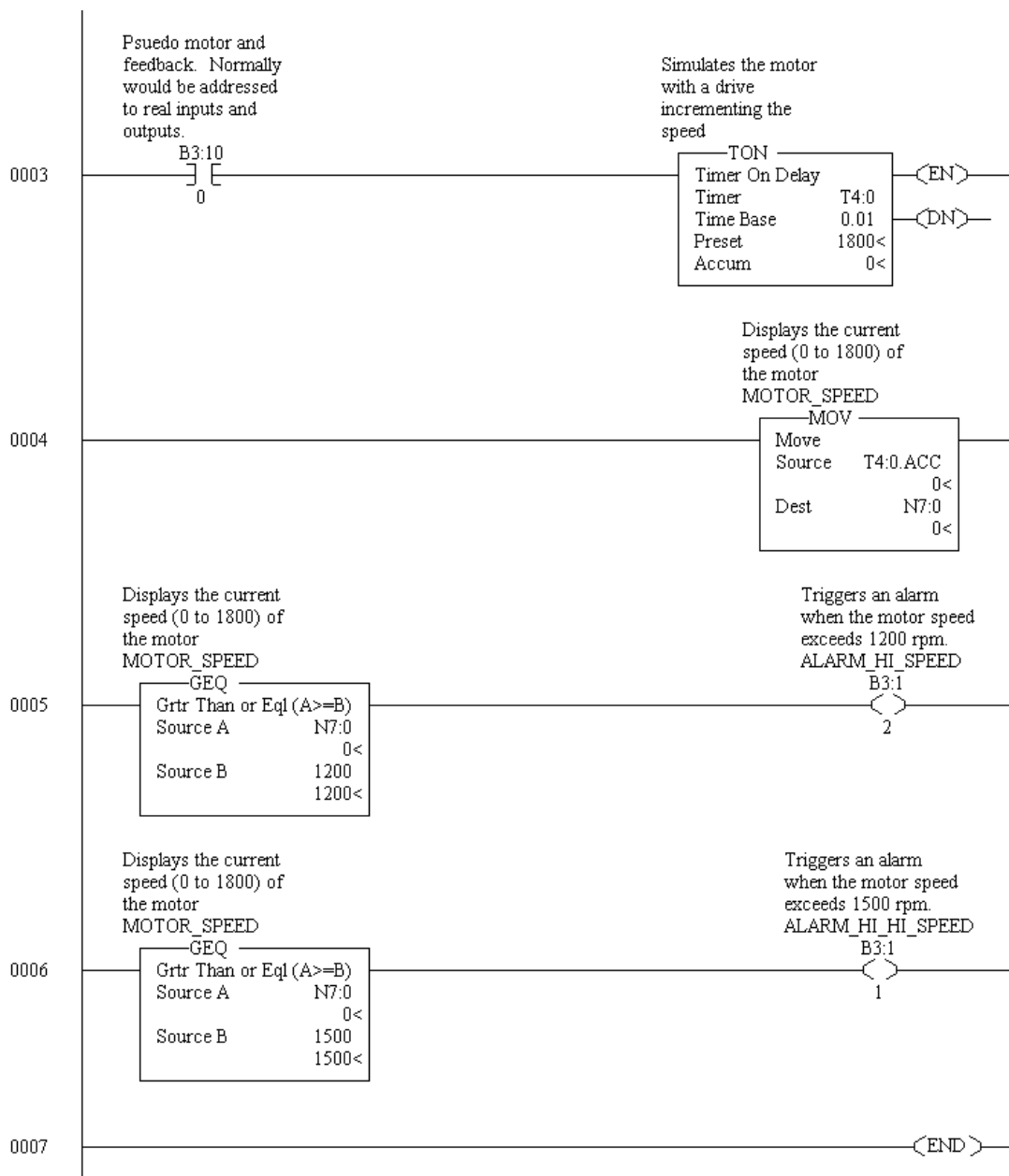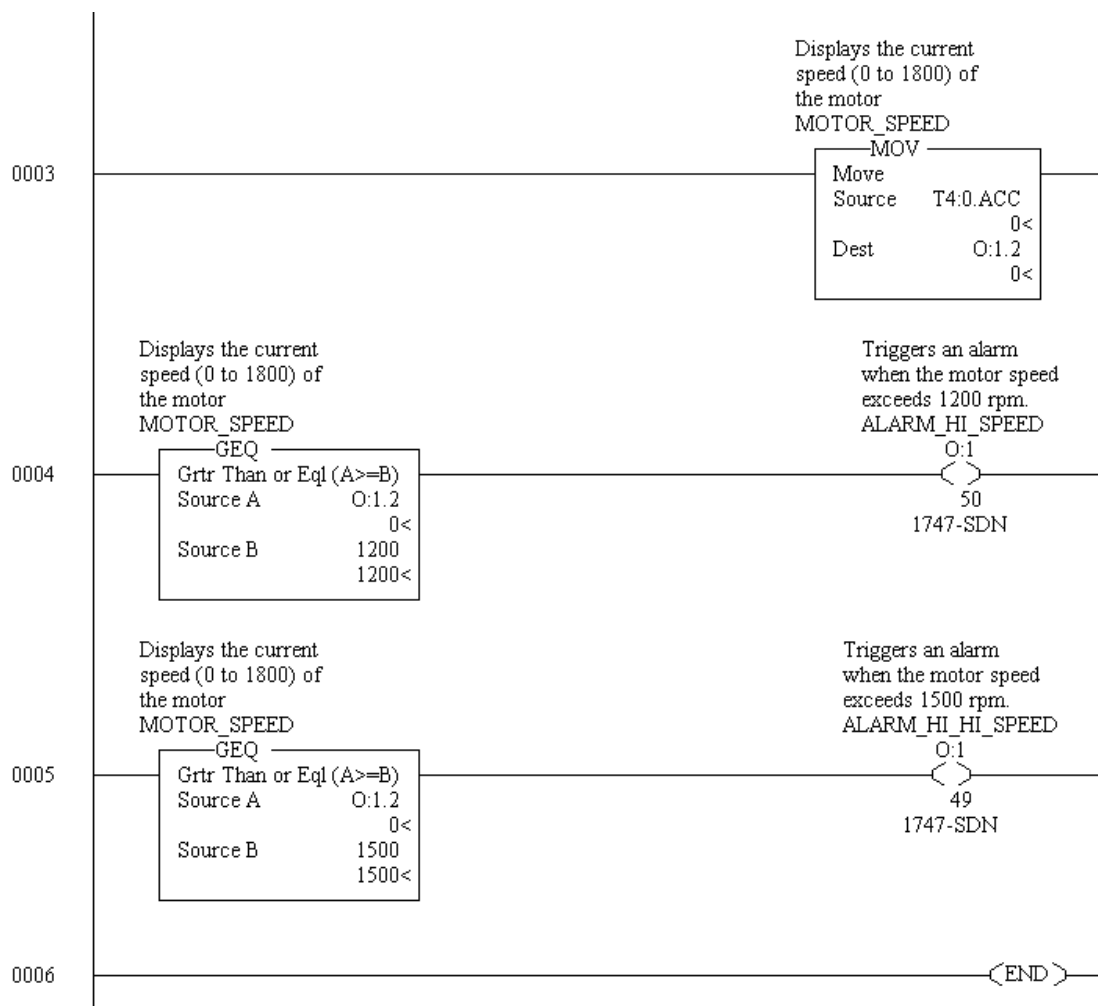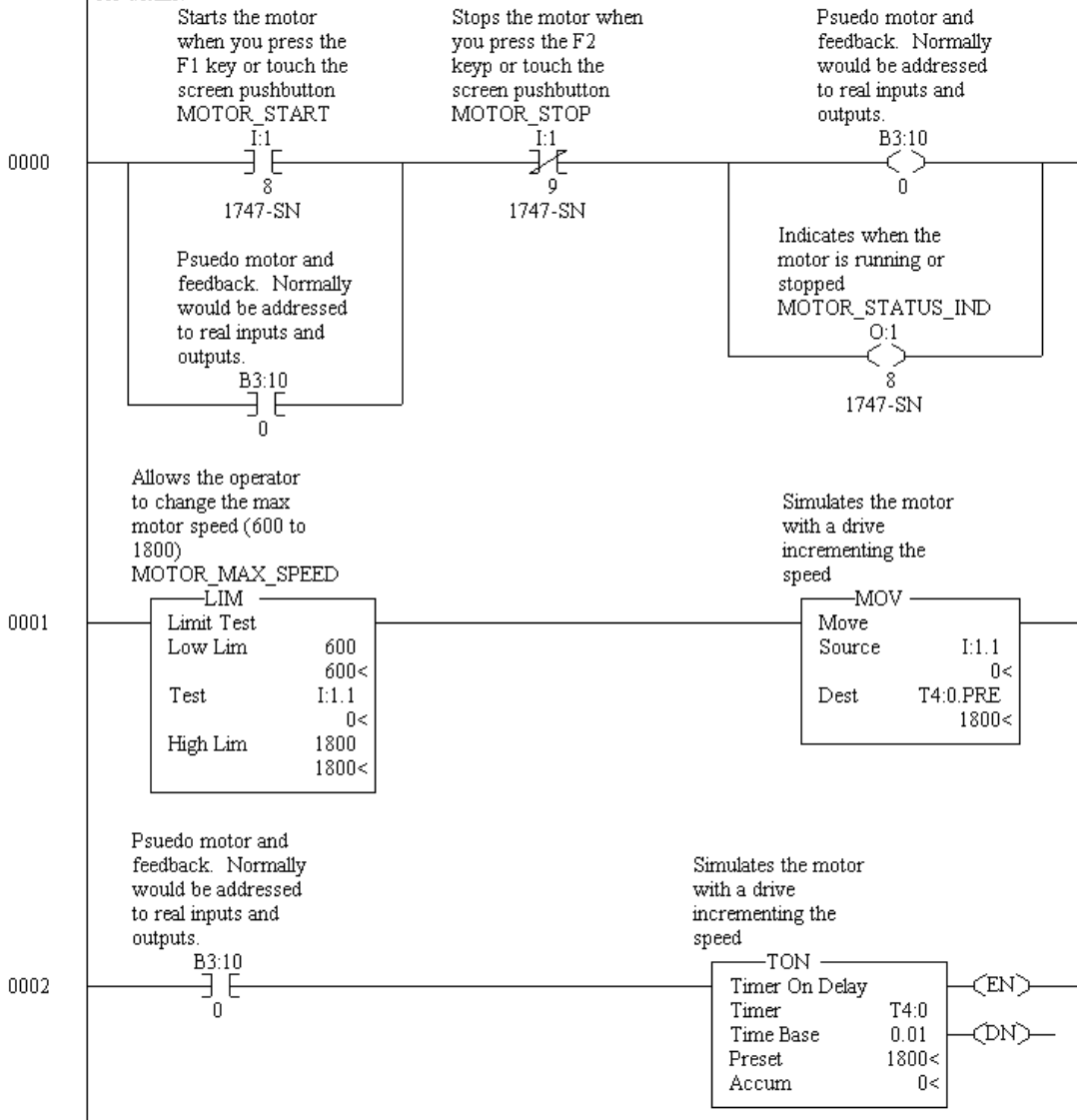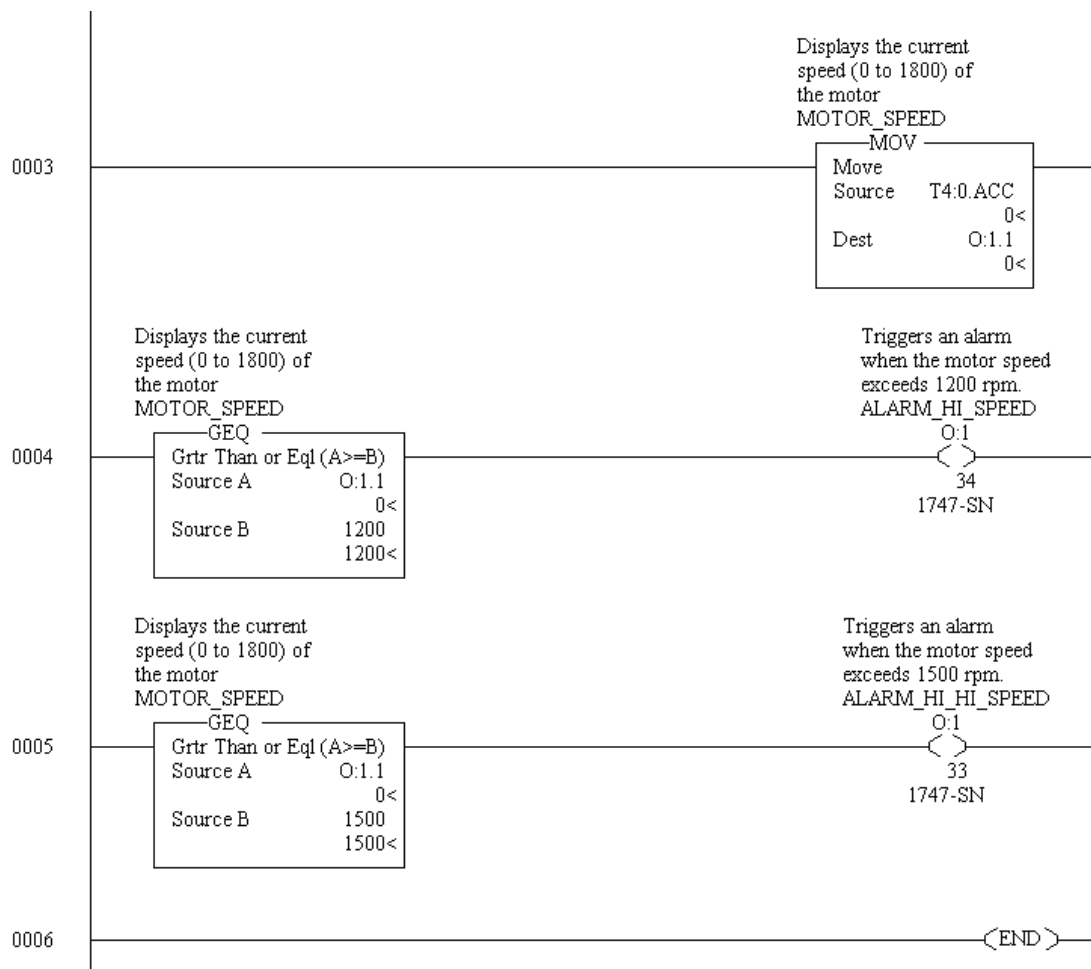
Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START	Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP	Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

0000
```
        I:010                    I:010                              B3:10
        ] [                      ]/[                                ( )
         10                       11                                 0

   Psuedo motor and                                      Indicates when the
   feedback. Normally                                    motor is running or
   would be addressed                                    stopped
   to real inputs and                                    MOTOR_STATUS_IND
   outputs.                                                  O:010
        B3:10                                                 ( )
        ] [                                                    10
         0
```

Allows the operator to change the max motor speed (600 to 1800)
MOTOR_MAX_SPEED

0001
```
            ----- LIM -----                          ----- MOV -----
            Limit Test                               Move
            Low Lim        600                        Source        I:011
                          600<                                         0<
            Test          I:011                       Dest       T4:0.PRE
                            0<                                     1800<
            High Lim      1800
                          1800<
```

Psuedo motor and feedback. Normally would be addressed to real inputs and outputs.

Simulates the motor with a drive incrementing the speed

0002
```
        B3:10                              ----- TON -----
        ] [                                Timer On Delay              (EN)
         0                                 Timer          T4:0
                                           Time Base      0.01         (DN)
                                           Preset         1800<
                                           Accum             0<
```

```
                                                                  Displays the current
                                                                  speed (0 to 1800) of
                                                                  the motor
                                                                  MOTOR_SPEED
                                                                  ┌─── MOV ──────────┐
          0003 ──────────────────────────────────────────────────┤ Move             │──
                                                                  │ Source   T4:0.ACC│
                                                                  │              0<  │
                                                                  │ Dest     O:011   │
                                                                  │              0<  │
                                                                  └──────────────────┘

               Displays the current                               Triggers an alarm
               speed (0 to 1800) of                               when the motor speed
               the motor                                          exceeds 1200 rpm.
               MOTOR_SPEED                                        ALARM_HI_SPEED
               ┌─── GEQ ──────────┐                                    O:012
          0004 ┤ Grtr Than or Eql (A>=B)├────────────────────────────── ( ) ──────
               │ Source A     O:011│                                     2
               │              0<  │
               │ Source B     1200 │
               │            1200<  │
               └──────────────────┘

               Displays the current                               Triggers an alarm
               speed (0 to 1800) of                               when the motor speed
               the motor                                          exceeds 1500 rpm.
               MOTOR_SPEED                                        ALARM_HI_HI_SPEED
               ┌─── GEQ ──────────┐                                    O:012
          0005 ┤ Grtr Than or Eql (A>=B)├────────────────────────────── ( ) ──────
               │ Source A     O:011│                                     1
               │              0<  │
               │ Source B     1500 │
               │            1500<  │
               └──────────────────┘


          0006 ──────────────────────────────────────────────────────────( END )──
```

enet.rsp

QuickStart PLC-5 ladder logic.
The ladder logic is configured for a PLC-5/40E.
This program simulates a motor/drive being started and stopped from the PanelView. See the Quick Start manual for details.
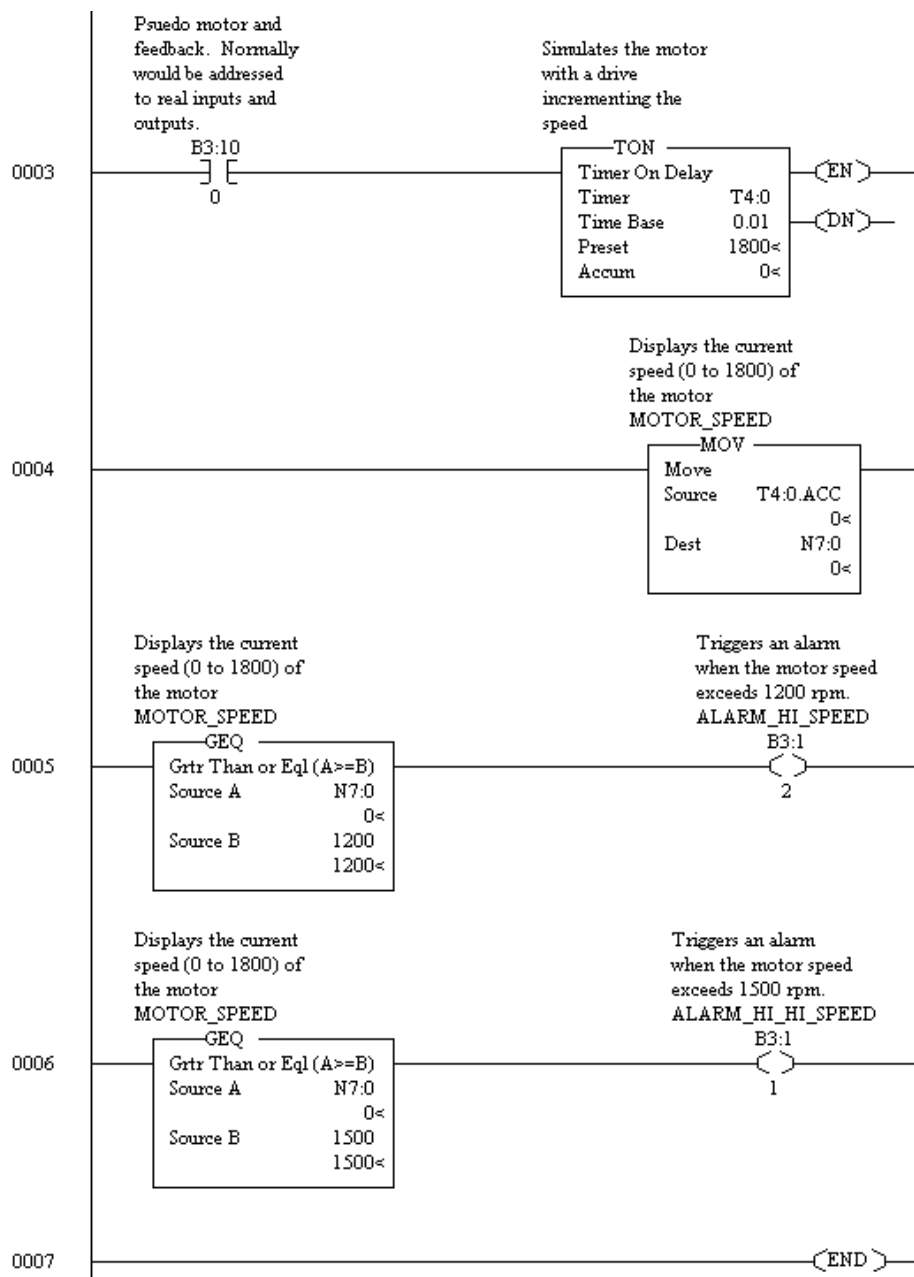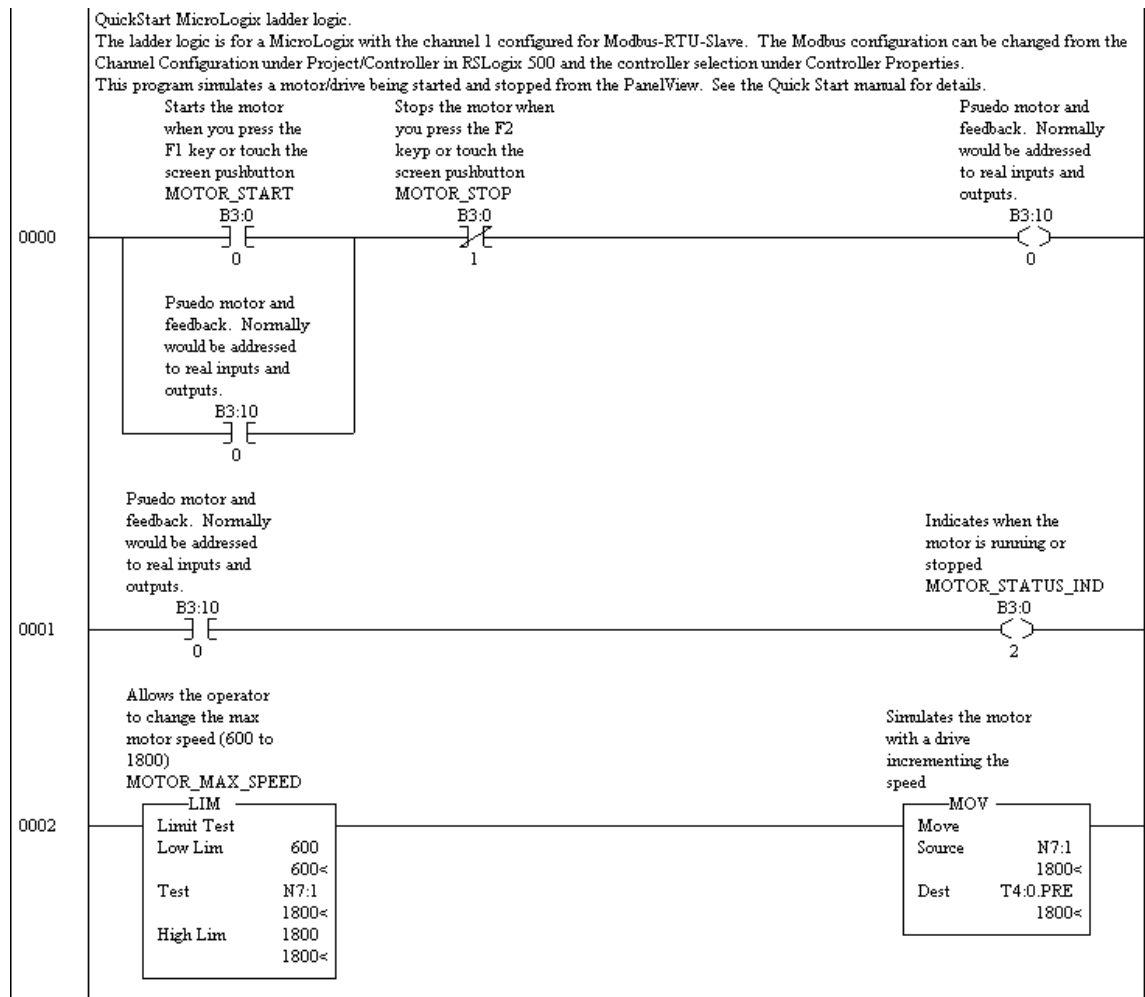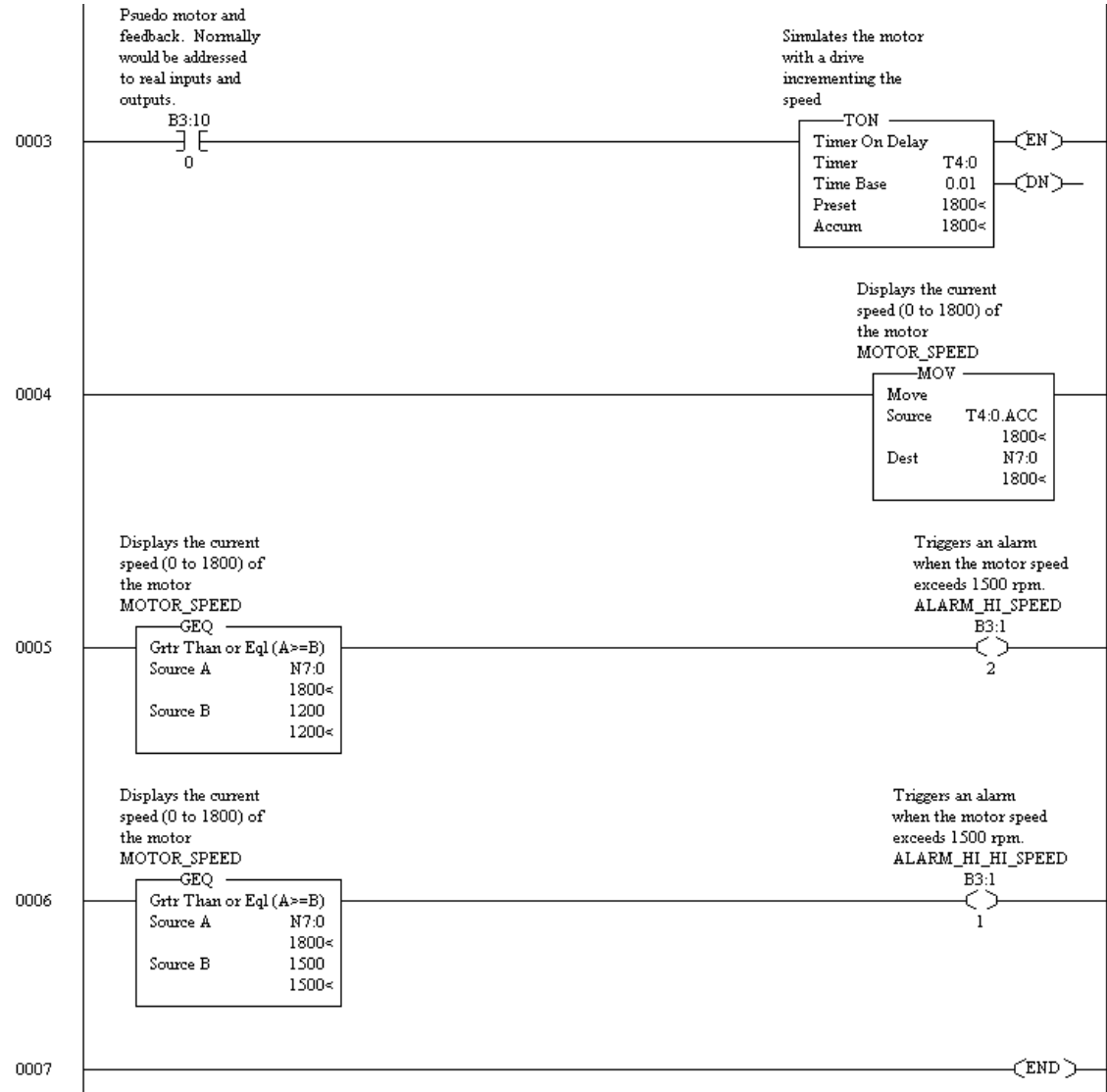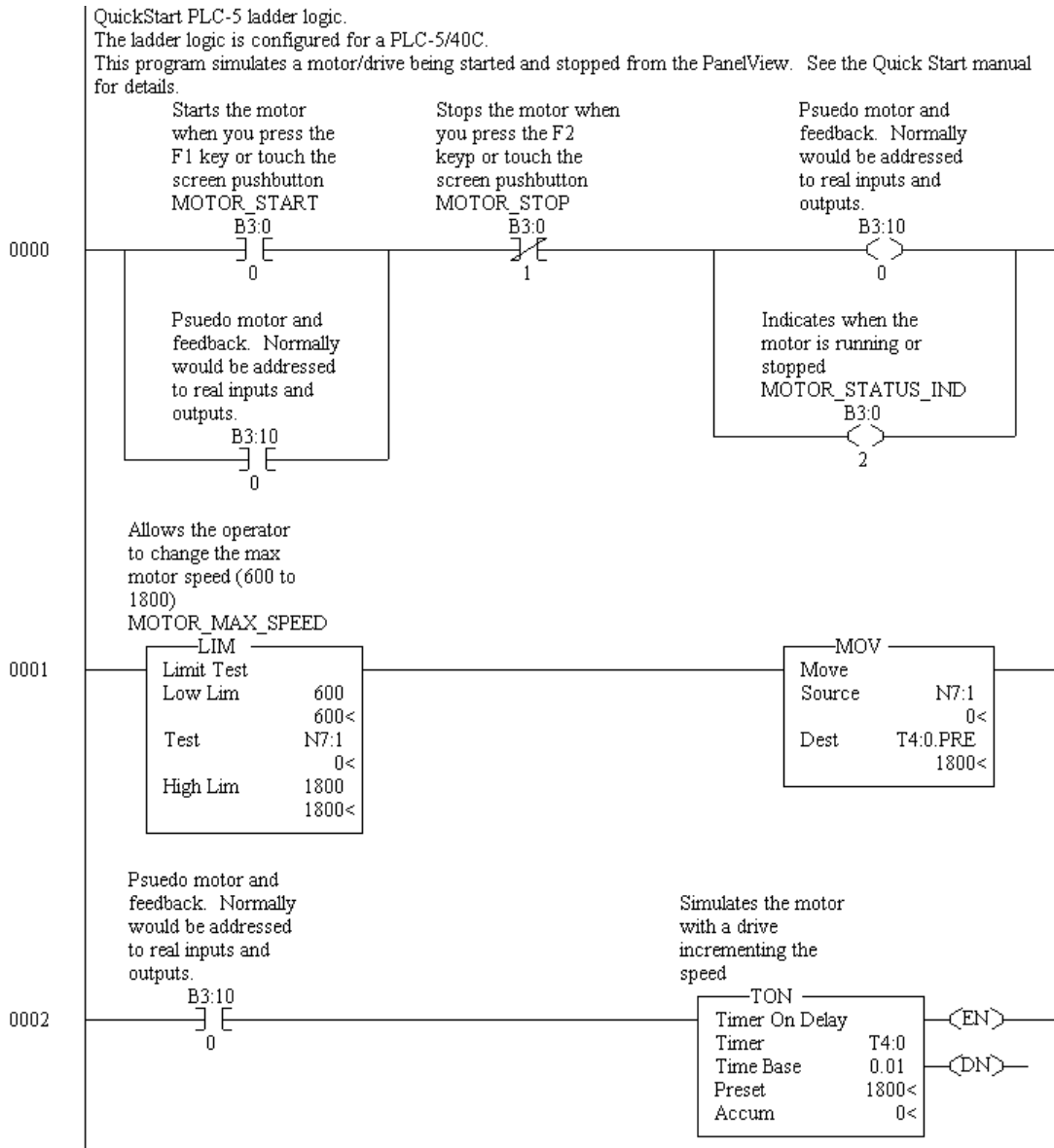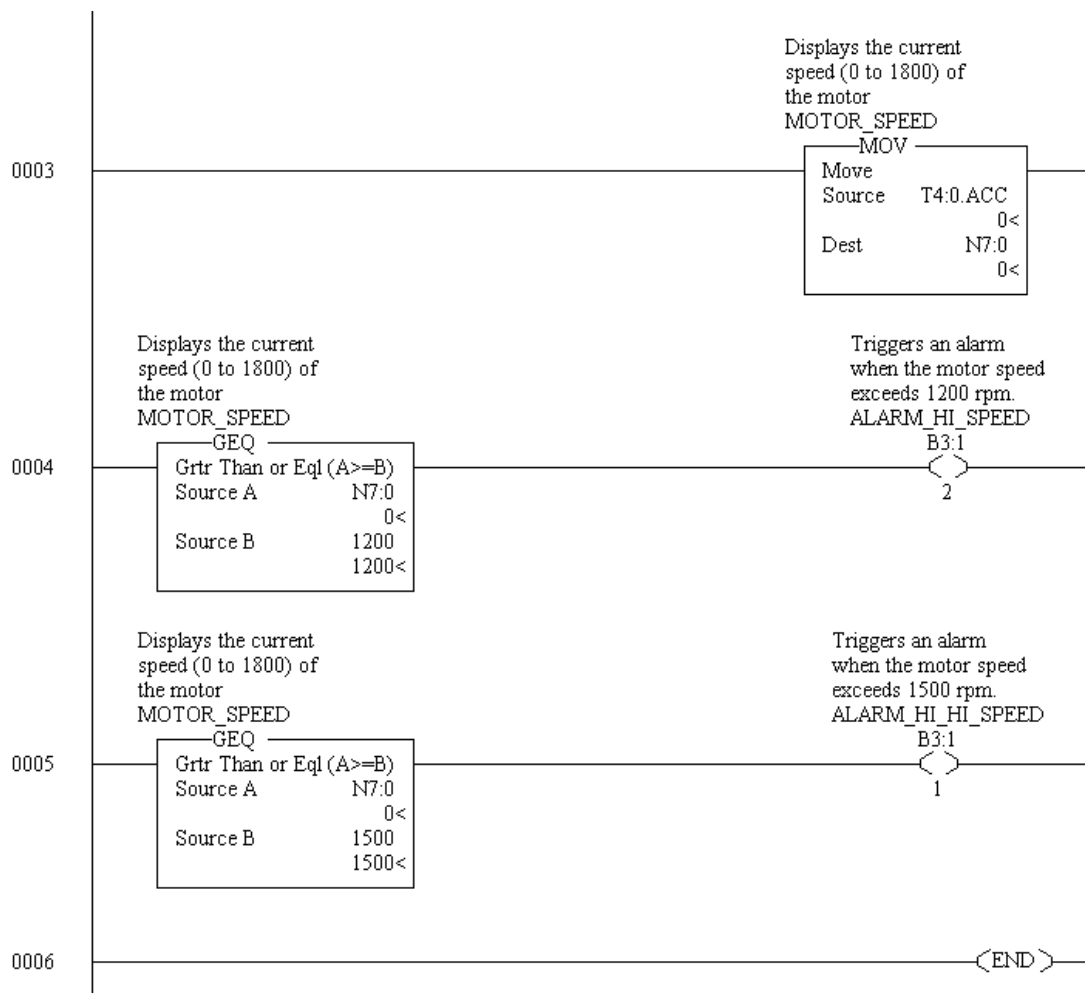
| Starts the motor when you press the F1 key or touch the screen pushbutton MOTOR_START | Stops the motor when you press the F2 keyp or touch the screen pushbutton MOTOR_STOP | Psuedo motor and feedback. Normally would be addressed to real inputs and outputs. |

```
          Starts the motor       Stops the motor when    Psuedo motor and
          when you press the      you press the F2        feedback. Normally
          F1 key or touch the     keyp or touch the       would be addressed
          screen pushbutton       screen pushbutton       to real inputs and
          MOTOR_START             MOTOR_STOP              outputs.
          B3:0                    B3:0                     B3:10
0000  ────┤ ├──────────┬──────────┤/├──────────────────────( )──────
           0           │           1                        0
          Psuedo motor and         Indicates when the
          feedback. Normally       motor is running or
          would be addressed       stopped
          to real inputs and       MOTOR_STATUS_IND
          outputs.                 B3:0
          B3:10                              ┌─────────────( )──────
      ────┤ ├──────────┘                     │             2
           0

          Allows the operator              Simulates the motor
          to change the max                with a drive
          motor speed (600 to              incrementing the
          1800)                            speed
          MOTOR_MAX_SPEED
           ┌─────LIM────────┐               ┌─────MOV─────────┐
0001  ─────┤ Limit Test     ├───────────────┤ Move            ├──────
           │ Low Lim    600 │               │ Source     N7:1 │
           │            600<│               │              0< │
           │ Test      N7:1 │               │ Dest   T4:0.PRE │
           │             0< │               │           1800< │
           │ High Lim  1800 │               └─────────────────┘
           │           1800<│
           └────────────────┘

          Psuedo motor and                 Simulates the motor
          feedback. Normally               with a drive
          would be addressed               incrementing the
          to real inputs and               speed
          outputs.
          B3:10                             ┌─────TON─────────┐
0002  ────┤ ├───────────────────────────────┤ Timer On Delay  ├──(EN)──
           0                                │ Timer      T4:0 │
                                            │ Time Base  0.01 ├──(DN)──
                                            │ Preset    1800< │
                                            │ Accum        0< │
                                            └─────────────────┘
```
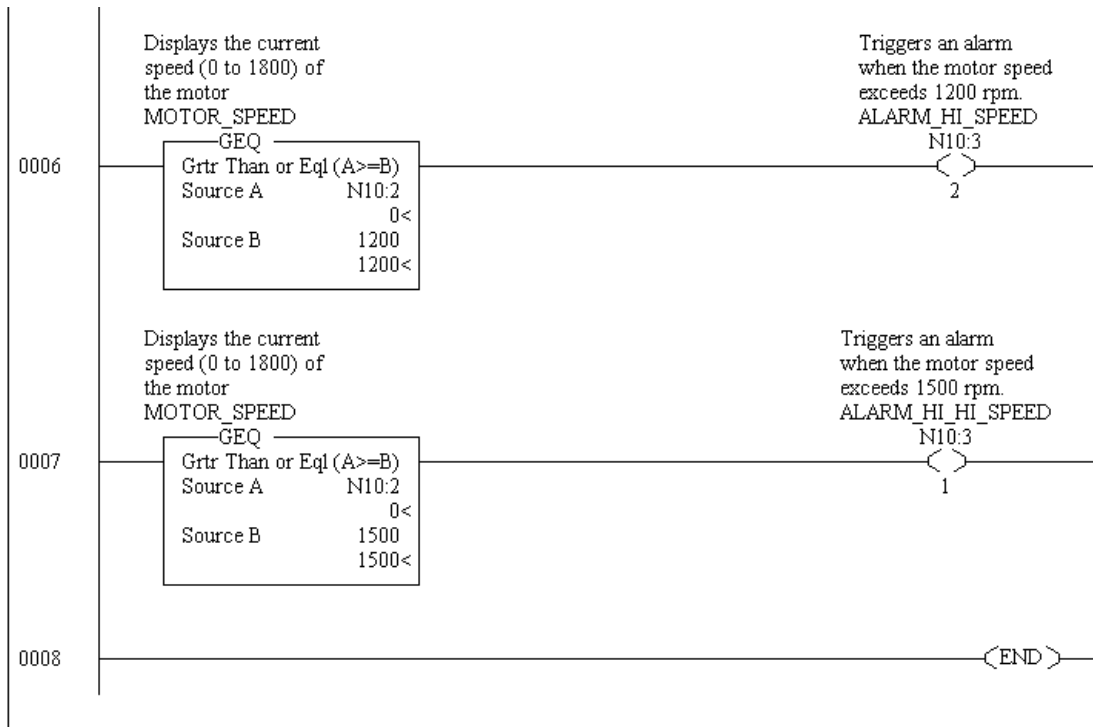
```
                                                    Displays the current
                                                    speed (0 to 1800) of
                                                    the motor
                                                    MOTOR_SPEED
                                                      ─MOV─
0003 ─────────────────────────────────────────────┤ Move            ├──
                                                   │ Source  T4:0.ACC │
                                                   │              0<  │
                                                   │ Dest      N7:0   │
                                                   │              0<  │

        Displays the current                        Triggers an alarm
        speed (0 to 1800) of                        when the motor speed
        the motor                                   exceeds 1200 rpm.
        MOTOR_SPEED                                 ALARM_HI_SPEED
          ─GEQ─                                       B3:1
0004 ──┤ Grtr Than or Eql (A>=B) ├──────────────────( )──
       │ Source A        N7:0     │                   2
       │                   0<     │
       │ Source B        1200     │
       │                 1200<    │

        Displays the current                        Triggers an alarm
        speed (0 to 1800) of                        when the motor speed
        the motor                                   exceeds 1500 rpm.
        MOTOR_SPEED                                 ALARM_HI_HI_SPEED
          ─GEQ─                                       B3:1
0005 ──┤ Grtr Than or Eql (A>=B) ├──────────────────( )──
       │ Source A        N7:0     │                   1
       │                   0<     │
       │ Source B        1500     │
       │                 1500<    │

0006 ───────────────────────────────────────────────( END )──
```

Scanner programs

These files are provided on the PanelBuilder32 installation CD in the **(\QuickStart\DNet directory)**.

DeviceNet Applications using RSNetworx for DeviceNet

File Name	Use with these application files:
1747sdn.dnt	• dnet.rss • dnet.pba
1756dnb.dnt	• dnet.acd • dnet.pba
1771sdn.dnt	• dnet.rsp • dnet.pba

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