

Using FactoryTalk View ME with the ControlLogix PLC's

Rev 14

General Information

The laboratory PC's are all configured to use the FactoryTalk Linx server to communicate with the ControlLogix and CompactLogix processors through one of the ControlLogix Ethernet modules.

Hints

At least one team member needs to work through the FactoryTalk View ME tutorial.

Note that the FT View application is stored on the local machine that you are running FT View. Therefore, after finishing any edits, whether working on one of the VMs or remote desktopped into one of the lab PCs, backup your project and store the backup on your S:\ drive. I recommend that you e-mail the backed-up project (.apa file) to the other members of the team. Restore the project to the VM/PC when starting new edits or testing your application.

RSLinx Enterprise Device Shortcuts

The device shortcuts to the unit processors are:

Unit	IP Addr	Slot
RWet_Unl	131.151.52.134 – slot 7 EN2TR - 131.151.52.170	
TWet_Unl	131.151.52.134 – slot 7 EN2TR - 131.151.52.171	
Blend	131.151.52.134 – slot 2	
React_1	131.151.52.134 – slot 0	
Ion_Exc_1	131.151.52.134 – slot 4	
CIP_1	131.151.52.133 – slot 1	
RDry_Unl	131.151.52.135 – N/A	
TDry_Unl	131.151.52.135 – N/A	
Dry_StoIn	131.151.52.135 – slot 7 EN2TR - 131.151.52.156	
Dry_StoOt	131.151.52.135 – slot 7 EN2TR - 131.151.52.156	
React_2	131.151.52.135 – slot 6	
Ion_Exc_2	131.151.52.134 – slot 5	
Stor_Tnk_1	131.151.52.136 – slot 7 EN2TR - 131.151.52.170	
Stor_LO_1	131.151.52.136 – slot 7 EN2TR - 131.151.52.170	
RPow_Unl	131.151.52.135 – N/A	
TPow_Unl	131.151.52.135 – N/A	
React_3	131.151.52.136 – slot 5	
Ion_Exc_3	131.151.52.134 – slot 6	
Ion_Exc_4	131.151.52.136 – N/A	
Stor_Tnk_2	131.151.52.136 – slot 7 EN2TR - 131.151.52.171	

Stor_LO_2	131.151.52.136 – slot 7 EN2TR - 131.151.52.171
React_4	131.151.52.133 – N/A
Ion_Exc_5	131.151.52.134 – N/A
Ion_Exc_6	131.151.52.134 – N/A
Stor_Tnk_3	131.151.52.134 – N/A
Stor_LO_3	N/A
CIP_2	131.151.52.133 – N/A
QA_Smpl	131.151.52.136 – slot 9 ENBT 131.151.52.215
Soda_Ash	131.151.52.136 – slot 9 ENBT 131.151.52.215
Dry_Add	N/A
Wet_Add	N/A

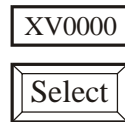
N/A - Not being used this semester, but may be stub for testing other units

The Unit Screen

Size of Screen – The screen size should be selected as a PVPlus 1250 (800x600) or PVPlus 1500 (1024x768). Only use the larger one if your unit has a large number of devices or quite a few buttons to select source/destination.

The screen should have the name of the unit (not the shortened name) at the top, in Arial 24 point bold font. The background of the screen should be light gray (the third gray button - 25% black - R 192, G 192, B 192). Set up the screen for your unit in the following manner:

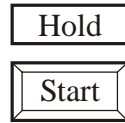
1. For each valve/pump provide the following:



The top rectangle is gray (50% black - R 128, G 128, B 128) when the valve/pump/gate is closed/off and white when the valve/pump/gate is open/running. For a flop gate, the left half of the rectangle is white when the gate is left and the right half is white when the gate is right. The second rectangle is an interlocked push button labeled “Select”. When the button is pressed, the “xxxx.Man_DevNum” is set to the appropriate constant for that valve/pump. The equipment tag is within the top rectangle.

2. Somewhere around the valve/pump indications, provide two buttons, one labeled “Open/Start” and the other labeled “Close/Stop”. When the “Open/Start” button is pressed, the “xxxx.Man_StartOpen” bit should be turned on. When the “Close/Stop” button is pressed, the “xxxx.Man_StopClose” bit should be turned on.

3. For each sequence in your unit, provide the following:



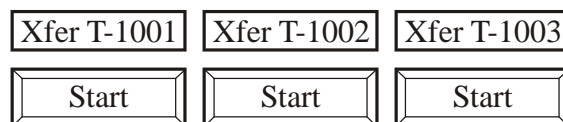
The top rectangle is white when the sequence is running and gray when it is not running. The second rectangle is a button labeled “Start”. When the button is pressed, the appropriate “xxxx_yyy.LTP_Start” bit is turned on. The name of the sequence is within the top rectangle. These rectangles/buttons must line up in one horizontal row on the screen (as in #9 below)

4. Provide a button that toggles the “xxxx.Local” bit. When “xxxx.Local” is on, the button should display “Local”. When “xxxx.Local” is off, the button should display “Remote”. Use a multistate push button.
5. Provide a field, labeled as “Message #” that displays the message number for the sequences in your group.
6. Provide a field, labeled as “Maintenance Mode” The field should display as “Yes” when the unit is in the maintenance mode and “No” when it is not.

To open/close/start/stop a valve/pump device, first press the “Select” button for the device. Then press the “Open/Start” or “Close/Stop” buttons to command the device. Note: you will need to be in the maintenance mode to be able to do this.

To start a sequence, make sure you are in the manual mode and press the “Start” button below the sequence name.

7. Provide a button labeled “Reset Alarms” that when pressed the “xxxx.Alm_Reset” bit is turned on. Also to aid in testing, provide a red text field, “Device Fail” that is visible when any of the devices in the unit have the “xxxx.Any_Fail” bit on.
8. If there are any timed steps in the unit sequences, provide a field, labeled as “Remaining Step Time” and with a label indicating the units (sec.). The field should display the time remaining when the step being executed is being timed. All three parts of the field (time and the two labels) should be hidden when the remaining time is zero.
9. If the sequence has multiple sources or multiple destinations (separate start button for each), provide a separate button for each, for example:



As for the sequence start buttons, the top rectangle is white when the sequence is running and gray when it is not running. The second rectangle is a button labeled “Start”. When the button is pressed, the appropriate “xxxx_yyy.LTP_Start” bit is turned on.

10. If the sequence has multiple sources and multiple destinations, at some part of the sequence, the operator will need to specify the source and destination. Provide a series of buttons shown and placed as follows,

Source	<input type="button" value="T-1001"/>	<input type="button" value="T-1002"/>	<input type="button" value="T-1002"/>
Destination	<input type="button" value="T-1051"/>	<input type="button" value="T-1052"/>	<input type="button" value="T-1052"/>

A source is selected by pressing the appropriate source. When the button is pressed, an integer is set to the appropriate constant for that source or destination. When selected, the button should change color, indicating that it is selected. The buttons should not disappear when the sequence continues so the operator can still see the selection. After the confirmation button is pressed, the buttons should not change and an operator press of the button should be ignored.

The source/destination buttons should be placed between the buttons to select a sequence and the device control buttons.

If specified by the sequence, a separate "confirmation" button should be provided. This button should only be visible during the step the operator needs to press it. Otherwise, it is not visible.

11. If your processor includes more than one unit (for example, Dry_Store, Stor_Tnk_LO_x), provide a separate screen for each unit in one FT View project. Do not create a separate project for each screen.

Note: The screen layout and placement of the buttons should be very similar to the Soda_Ash example.

The Soda Ash example does not have an area for multiple source/destination selects and additional operator interaction. If your unit needs to have space for multiple source/destination selects and additional operator interaction, move the sequence indications/buttons and everything below down 70 pixels or so:

1. Turn on the grid (View | Show Grid, make sure check mark in front of "Show Grid")
2. Turn on "Snap to Grid" (View | Snap On, make sure check mark in front of "Snap On")
3. Group all objects (sequence indications, sequence start buttons, message #, and time remaining) by selecting all of them and click on the Group icon.
4. Place the mouse cursor in the group. Click and hold down the left mouse button.
5. Drag the objects down 7 grid positions (each "dot" is 10 pixels apart). Should only be able to move in 10-pixel increments.
6. Release mouse button.
7. With the object group selected, click in the Ungroup icon.