

FX Tools Pro Release 4.1



FX Tools Pro is a suite of software tools for programming and configuring Facility Explorer controllers.

SOFTWARE.....	2
<i>FX Builder 5.4.9.....</i>	<i>2</i>
<i>FX Simulator 5.4.0</i>	<i>2</i>
<i>FX Builder Express 5.4.0</i>	<i>2</i>
<i>FX CommPro N2 5.4.1.....</i>	<i>2</i>
<i>FX CommPro Lon 5.4.0</i>	<i>2</i>
<i>FX CommPro BACnet 5.4.1</i>	<i>2</i>
USER GUIDES.....	3
UTILITIES & DRIVERS.....	3
<i>MD LON Loader</i>	<i>3</i>
<i>FX Trend Converter</i>	<i>3</i>
<i>Drivers.....</i>	<i>3</i>
HELP FILES.....	4
SYSTEM REQUIREMENTS	4
WARNINGS	5
KNOWN PRODUCT ISSUES.....	6
<i>FX Builder 5.4.9.....</i>	<i>6</i>
<i>FX CommPro BACnet 5.4.1</i>	<i>13</i>
<i>FX CommPro N2 5.4.1</i>	<i>15</i>

Software

FX Builder 5.4.9

The FX Builder tool provides the menus, navigation trees, and graphic screens for the programming and configuration of the Facility Explorer controllers. The configuration includes the definition of the controllers to be connected, the physical inputs and outputs and data points to be monitored, and the format of the local display screen of the controller.

FX Simulator 5.4.0

The FX Simulator tool provides the menus and graphic screens for simulating an application built with FX Builder Tool.

FX Builder Express 5.4.0

A special version of the FX Builder, called FX Builder Express, is also available to configure a library of standard applications specifically designed for Facility Explorer controllers. The configuration is done using the specific graphic user interfaces of the FX Builder Express tool.

FX CommPro N2 5.4.1

The Facility Explorer controllers are downloaded and commissioned using the FX CommPro tool N2. FX CommPro N2 enables the monitoring and control of the connected Facility Explorer controller. Setting parameters, tuning controls, and saving default parameters for other controller configurations are all features of the FX CommPro for the N2 Open protocol.

FX CommPro Lon 5.4.0

The Facility Explorer controllers are downloaded and commissioned using the FX CommPro tool Lon. FX CommPro Lon enables the monitoring and control of the connected Facility Explorer controller. Setting parameters, tuning controls, and saving default parameters for other controller configurations are all features of the FX CommPro for the LonWorks® protocol.

FX CommPro BACnet 5.4.1

The Facility Explorer controllers are downloaded and commissioned using the FX CommPro tool BACnet. FX CommPro BACnet enables the monitoring and control of the connected Facility Explorer controller. Setting parameters, tuning controls, and saving default parameters for other controller configurations are all features of the FX CommPro for the BACnet protocol.

User Guides

PDF files to provide an easy start up for FX Tools Pro Usage.

- ☐ *12011150 User Guide FX Tools (FX Builder Express)*
- ☐ *12011151 User Guide FX Tools (FX CommPro Lon)*
- ☐ *12011152 User Guide FX Tools (FX CommPro N2)*
- ☐ *12011153 User Guide FX Tools (FX Loader Utility)*
- ☐ *12011154 User Guide FX Tools (FX Builder)*
- ☐ *12011240 User Guide FX Tools (FX CommPro BACnet)*

Latest versions of these documents are available at <http://cgproducts.johnsoncontrols.com> (QuickLIT Online Product Literature) or from your local Johnson Controls office.

Utilities & Drivers

MD LON Loader

MD LON Loader is a specialized utility used to download application ONLY to Facility Explorer MD20 Master Display LonWorks models (LP-MD20D02-000C, LP-MD20D04-000C, LP-MD20D05-000C).

FX Trend Converter

FX Trend Converter is a specialized utility used to convert into a format compatible with Microsoft Office trend files uploaded from Facility Explorer controllers.

Drivers

Freely available drivers for the most common Echelon® Network interfaces (SLTA, PCLTA, PCC10 etc..) available for different Windows® Operating System (95®, 98®, NT® etc..). Updates for these drivers may be found on Echelon® web site.

Help Files

The help are used by the user to help him during the application programming and the variables identification.

- ☐ *SNVT*
- ☐ *SCPT*
- ☐ *UCPT*

System Requirements

Operating Systems:

Microsoft Windows XP (with Service Pack 1 or later)

Hardware Requirements:

<i>Processor</i>	<i>Intel® Pentium® Processor, 500 MHz or higher</i>
<i>RAM</i>	<i>512 MB RAM (minimum) / 1GB (recommended)</i>
<i>Hard Disk</i>	<i>60 MB available hard disk storage</i>
<i>Display</i>	<i>Display resolution 1024 x 768 16-bit (32,768) colour minimum</i>
<i>Interface</i>	<i>RS232, USB</i>

Other Software Requirements:

Microsoft Internet Explorer Version 5.0 or later

Warnings

- *If older versions of the same tools are already installed on your computer, BEFORE INSTALLING THE TOOLS PROVIDED WITH THIS CD ROM, YOU MUST:*
 1. *Uninstall the older versions.*
 2. *Erase any remaining files from older installations.*
 3. *Before installing the tools, upgrade the Windows Operating System in order to install the MICROSOFT .NET FRAMEWORK 2.0.*
 4. *An user can check to see if the .NET Framework 2.0 has already installed by clicking Start on your Windows desktop, selecting Control Panel, and then double-clicking the Add or Remove Programs icon. When that window appears, scroll through the list of applications. If you see Microsoft .NET Framework 2.0 listed, the latest version is already installed and you do not need to install it again.*
 5. *Go to <http://www.microsoft.com/downloads/details.aspx?FamilyId=262D25E3-F589-4842-8157-034D1E7CF3A3&displaylang=en>, select the language e proceed with the installation.*
 6. *Install the setups.*
- *Before installing MD LON Loader utility, you MUST install the LOOM engine:*
 1. *Browse the CD-Rom*
 2. *Locate "Utilities" folder*
 3. *Access to "MD LON Loader" folder*
 4. *Unzip the "LOOM_RUNTIME_1_1_492.zip" file in a temporary folder*
 5. *Launch "Setup.exe" file*
 6. *When finished reboot the PC*
 7. *Install MD LON Loader utility using the auto run feature.*

Known Product Issues

FX Builder 5.4.9

CQ00003015 - PT140102: BACNET PROFILE

When object has more than one output connected, points when ported on BACnet plug-in point is not visible on BACnet profile

CQ00003010 - PT140183: XP9106 Connections

If you create a XT-Module with 1 XP9106 and 1 XP9105 (XP9106 has to be on position 1) and put the DI's to displayable and create an Output (Green Arrow), your application will crash if you create a MUI.

CQ00003014 - PT140119: LON plug-in

Memory space check of LON plug-in is not correct.

I.e, when adding more than 15 variables SNV112 type, download fails. Tool allows adding until 21 variables of such type.

CQ00003013 - PT140162: Application Conversion

Application with display language parameter with same names for all the languages is not converted from Builder 4 to Builder 5.

CQ00002824 - PT139579: NRM Object Execution Order

Behaviour of the NRM is different depending on the order of the NRM in the application view. NRM object must be on the first position of the application.

CQ00003024 - PT140248: FX10 and MUI

1. Application initially done on Builder 4 and ported/modified on Builder 5 failed on FX10. After application download, FX10 tries to initialize the display but connection with display continuously reboots.

*2. Leaving the MUI reboot for some minutes brings it to an "all-black" state (see attached picture)
Note: application can be repaired if some items are cancelled from the display.*

CQ00003009:

The network point factors are not correct in the "N2Table" of the exported application database.

The problem appears for all the points of the regions BD, ADI and for the Data Type "10007" of the region ADF.

The factors are set to "FF", this is not correct. The correct factors can be read in the "Snvts.xml" FX Builder file.

CQ00003008:

The GUI is not correctly synchronized when in the event plug-In the "send UI" option of the event is not checked. In the GUI configuration the event has not to be shown.

CQ00002952: Lon Plug In:

"Arithmetic operation resulted in an overflow" problem

The GUI is not correctly synchronized when in the event plugIn the "send UI" option of the event is not checked. In the GUI configuration the event has not to be shown.

CQ00002923: PLC Plug In:

If the Export Consistency form is opened or the application is saved some errors regarding the PLC are shown.

NOTE: the problem is verified only if the DDB area dimension is exceeded.

WORKAROUND: don't exceed the DDB dimension. However the application with DDB out of limits can not be saved with export.

CQ00002979 - PT139689: BACnet Plug-in

BV can be only connected to CP having only 2 statuses (without the LOG_NULL). Volatile In/Output points cannot be added to the BACnet profile. Moreover the CP is defined as UNVT_10149 (logic), but in BACnet profile it is shown as 0-EnumOverride

CQ00002908: Device "FXVMA0x" is not available.

Device "FXVMA0x" should be available as Target Device in the Application Wizard.

CQ00002909: FX06/FX07/FX14.

FX06/07/14: it is not checked the maximum CP value size (in bytes).

CQ00002917: Documentation generation doesn't work properly.

After the FX Builder closure, the "WINWORD.exe" process remains opened. The DOC files remain hanged-up.

These problems are verified generating documentation inside the Builder and using the Application Wizard.

CQ00002916:"Select an Application Template"

Pressing "Next" button generates an error if the application contains a PLC (IL) without code compiled.

WORKAROUND: write the PLC code. Inside an Application Template, it is difficult to have a PLC Object without code defined.

CQ00003012: Folder Menu Name

Editing Folder Menu Name generates a wrong behaviour in the Language capability.

In order to repeat the problem, the following steps have to be executed:

- Create a new application for the FX16, for example.*
- Add the MUI_V3.*
- Insert a new Folder.*
- Change the Folder Menu Name.*
- Open the Language capability, scroll the text list and reach the last one. There are 6 text for the folder menu name "m", "my", "myN", ... This is not correct.*

WORKAROUND: Close and re-Open the Display plug-in. The behaviour becomes correct.

CQ00002833 – PT139049: Fan Controller Extended

No documentation is available for the object.

CQ00002834 – PT140076: PLC Help file

In Help-file it looks like the 'NOT' commands do have a space between them and the command. In reality you need an underscore (LOAD_NOT instead of LOAD NOT)

PLC Documentation is correct only but Help file is wrong.

CQ00002966 – PT140032: Connections

Some times, when closing and open again the Application view, connections lose the initial graphical format.

CQ00002862: Display Plug-in

Text changes are lost after Display plug-in is re-opened.

In order to repeat the problem, the following steps have to be executed:

- Create a new Application.
 - Add the Display.
 - Open the Language capability.
 - Edit the "Password" User Text, for example.
 - Close the plug-in using OK button.
 - Re-open the plug-in but the User Text appears at the end of the list and the text is the original one.
- This is not correct.*

The same problem is verified for the following texts "IP", "-----", "UserID", "PPP Authentication Couples", "WEB", "CardPIN", "Modem", the states of the Enumerated Trended Point.

CQ00002863: Documentation generation

"Failsafe Relay Output" is not included in the Hardware table of the DOC.

CQ00002866: FX06Pnn-revB Documentation

Device "FX06Pnn-revB", data sheet is not available..

CQ00002864: Documentation generation

Hardware table of the DOC contains values of the Object Attributes even if Inputs are supplied. (Values should be the Input values).

CQ00002870: Local Display

The Local Display memory limit should be 55000 bytes.

CQ00002877: Condition Editor

Name checks not always working.

In order to repeat the problem, do the following steps :

- Create a new Template.
- Add 2 conditions, "Cond_1" e "Cond_2".
- Select the "Cond_1" and re-name it as "Cond_2".

- If the "Update" button is pressed the condition is renamed. This is not correct because the name already exist.
- Close the form "OK" button, but an error report is shown.
- Re-open the form, but a condition is lost.

CQ00002878: Condition Editor

If a Permanent Point name is named as an operator (i.e. " And") the expression validation generates an error.

CQ00002905: Display Plug-in synchronization

In order to repeat the problem, the following steps have to be executed :

- Use the attached template and see the condition association (conditions.doc).
- Set to "1" the condition 2, for example.
- Go to the "Generate Application" last step and press "Finish" button.
- Open the application in the Builder and open the Display plug-in. The Display updating is not correctly done. The points are not correctly aligned.

NOTE: the behaviour is not correct only in case a conditioned structured point is removed by the conditional cut mechanism. The normal point works fine.

C 00002879: Condition Editor

The states list is not shown if an operator button is pressed. Moreover should be shown the state text.

CQ00002890: Application Wizard

If a default selection (Display/Network Protocol) is changed, pressing "Previous" and "Next" will make the selection is lost.

CQ00002886: Condition Editor

Condition Expression shown in the pop-up are not word wrapped.

C 00002888: Assembly

A PLC inside an assembly has an Input internal used by the Code. If a Macro Input is created starting from the PLC Input the Macro Input results as mandatory.

CQ00002900: Application Wizard

"Configure Hardware I/O" step: if the default values are changed, after "Previous" and "Next" pressure the settings are lost.

CQ00002903: Application Wizard

"Configure Hardware I/O" step : using the Digital Output Hardware Objects which uses 2 different channel, in the last step if the "Previous" is pressed the behaviour is not correct.

CQ00002962 – PT140004: LON Plug-in

When you add an application point to the LON network, the tool creates an associated point on the LON protocol sheet. However, if you delete the application point in the LON network, the associated point in the LON protocol sheet is not deleted. FX Builder should automatically delete this point in the LON protocol sheet when the application point is deleted.

CQ00003064: Display Plug-in

On display plug-in, the Object Outputs of IOM objects are not writable.

CQ00003162– PT 140385 – Display Plug-in

Accounts folder not saved when exporting a Display Template

CQ00003173– PT 140216 - UoM management

FX Builder applications built in FX Builder 4.2.0 (and possibly other old FX Builder versions), that are upgraded to FX Builder 5.2.7, will incorrectly transmit the data over the N2.

Same as CQ00002988.

CQ00003176– PT 140380 - UoM management

Conversion error when FXVMA connected via gateway to an FX16

When connecting an FXVMA to an FX16 via Gateway, and both the FXVMA UoM and the FX16 UoM are set to US, the units double convert on the FX16 MUI

CQ00002972 – PT140039: NUMERIC Object

Extended numeric objects: average, maximum, minimum, selector has no mandatory input. On the contrary if no connection is made, application doesn't run properly after download.

MUI shows "Wrong obj config" and Commpro shows "Device is offline or not running"

WORKAROUND: connect at least an Input.

CQ00002988 – PT140061: Zoning Application

Zoning application made for Builder 4 and ported on Builder 5. After download on devices, the slave starts as SI unit (with original application made for Builder 4, the slave starts with US unit).

CQ00003016 – PT140197: Gateway

Gateway is able to read only parameter from 1 to 254. Parameter 255 can not be linked to gateway.

CQ00002787 – PT139388: MD System Event Management

Open the event plug-in. System event "SEND UI" option is not checked and DI event is checked (event coming from the application)

When application is downloaded, and DI event is active, a wrong string is displayed on the MD display and the buffer is not working.

If System Event is checked again as "SEND UI", problem disappears and DI event is displayed correctly on MD display.

CQ00002828 – PT139584: NRM Object

Builder allows multiple NRM objects to be selected while firmware doesn't.

CQ00002846 – PT139461: Segment format

- Create input point of the segment and defined as SNVT 105 in the application point
- Create output point of the segment and defined as SNVT 105 in the application point
- Create the break point (i.e as 10180). XBreakPoint and YBreakPoint in the application point are fixed to SNVT 51, and so can not be changed to SNVT 105.

As a result if a user wants to use the segment object fully as temperature (SNVT 105) and work with the conversion (US/SI) it can apply these conversions only to the input/output and not the breakpoints.

Same if segment is used with other SNVT (pressure...)

CQ00002798: Display Plug-in

Sometimes when saving an application originally created with FX Builder 4 you can get errors.

CQ00002733: Device application view

If the "Send to Device Interface..." function is executed an Error Report is shown.

In order to repeat the problem, do following steps:

- Create a new application.
- Open the Device Control Logic.
- Insert an Object and create the Device Input starting from the Object Input.
- Insert an Assembly.
- Open the Assembly Control Logic.
- Insert the same Object and execute the "Send to Device Interface..." function for the same Input but an Error Report is shown.

The behaviour is correct after pressing OK button.

CQ00002758 – PT139027: LON Plug-in

Name length is not checked by LON plug-in. As a consequence, some name could be longer than the maximum allowed by LON (15 characters).

When file is used in combination with LON maker, commissioning fails.

CQ00002761 – PT137949: Time Sync

Time synch only works if input changes from invalid to valid. Because there is only one receive heartbeat, all bounded inputs needs to become invalid for time synch.

CQ00002781: Schedulers

If the Scheduler Point has the same name of the Scheduler sub menu the behaviour is not correct.

In order to repeat the problem, do the following steps:

- Create a new application
- Open the Device Control Logic.
- Insert the "Calendar" Object and create the Device Input starting from the Object Input.
- Rename the Device Input as "Calendar".
- In the Control View, create the Application Point Input Permanent starting from the Device Input.
- Add the Display.
- Close the Display using OK button.
- Save and download the application.
- On the Display, open the Main Menu and select the Scheduler but the sub menu shows "Option0".

CQ00002757 – PT138718: XIF file with Schedulers

When XIF file includes schedulers, format is not compatible with LON reference and XIF crashes with LON maker.

CQ00002723 – PT139130: Constant Value Object

The Constant Value Object Data Sheet must be updated. Information about the Object plug-in to change the attribute Data Type is not specified.

CQ00002724 – PT139121: Application Point Plug-in

Data Type is changed for a Point used in the Display, no message is shown to inform about the lost of the Display Point.

In order to repeat the problem, do the following steps:

- *Create a new application with an Application Point.*
- *Add the Display and insert the Application Point in a Display Page.*
- *Close the Display plug-in using OK button.*
- *Open the Application Points plug-in and change the Data Type.*
- *Open the Display and the Point is no more available.*
- *In the Application Points plug-in, when the Data Type is changed a Warning Message should be shown that identify the lost of the Display Point.*

CQ00002725: Display Plug-in

The System Text "Too many exceptions" is misspelled ("To many exceptions").

The problem is verified for MUI and MUI_V3.

CQ00002726: Display Plug-in

When the Master language is changed user texts are not updated in the Layout Tree View.

NOTE: the Texts are not updated also in the Events, Trends and Schedulers capabilities.

CQ00002727: Display Plug-in

When the Master language is changed "Application Texts" are re-set to default

CQ00002728: Analog Input Object

Data Sheet must be updated with the Setup enumerated identifications.

("1 = Linear0-10Volts", etc).

FX CommPro BACnet 5.4.1

CQ00002497

When the Device goes On-Line, the tool doesn't refresh device properties and information shown. If a device under commissioning (Device Icon on Network View, Profile explored and some points on Watch view). is powered off/-on, the tool doesn't refresh all BACnet properties and check if the ApplicationID (the BACnet profile) is still the same.

To reply the problem do the following steps:

- Scan Device with MAC 5 on MSTP network;
- Explore the Profile;
- Add a point on Watch view;
- Power Off the Device;
- Wait for Off-Line Icon on Network View;
- Replace on MSTP network a new Device with MAC 5 but a different Application on board;

On FXCommProBACnet the Device Icon goes back to On-Line state, but the Device Object properties on Details View, Profile on Profile View and Points on Watch View are not refreshed. The worst is that the tool shows all points on Watch View as on-line, even if the new device answers with an error to the poll requests.

CQ00002552

P2P Plug-In "Abort" : pressing Abort while P2P Plug-In is opening, the tool populates the Profile View (even if the operation is not completed successfully). To reply the problem execute the following operations :

- Launch P2P Binding;
- Before to finish the procedure, press Abort;
- The tool doesn't open the P2P Plug-In but It populates the Profile View of the selected device

The Profile View doesn't contain all information, in fact the tool populates the Profile with the information received while the opening P2P binding procedure was active and assign "-" for all other properties. The tool shouldn't populate the Profile view if the operation is not finished successfully.

CQ00002555 P2P Plug-In

Binding management is not correct when the Server device is Off-Line.

To reply the problem do the following steps:

- Scan the network;
- Open P2P binding Plug-In;
- Add the Server Device on "Server Device" view;
- Create a binding and download the P2P table;
- Close P2P binding Plug-In;
- Power-Off Server Device and wait for the Off-Line Icon on Device view;
- Open P2P binding table;
- Upload P2P table;

FX Tools Pro Release 4.1



On Server Devices View the Server Device is added with “Not Available Icon” and on Bindings Table the binding updated is red (meaning not available), so the tool forbids the P2P table download on Client device Correct

Modifying the uploaded binding or deleting the uploaded bindings and creating a new binding, they are shown in black colour (meaning available), so the tool allows the P2P table download on Client Device. NOT CORRECT, in fact all bindings should be in red colour (Tool should check every time that a binding is modified or created, if the server device is running or not).

CQ00002648: Firmware Download

"Internal Firmware Updating" procedure is not timed-out.

If during the "Internal Firmware Updating" procedure, the Router (or the device) hangs up, the Tool remains in this state forever.

CQ00002765 - PT138042: Application Upload

The upload is implemented only for Fx16 plus.

CQ00002777 - PT138090: Application Upload

Tool crashes when trying to peer some points from TEC devices to FX (or vice-versa).

CQ00002948: Network view

In the "profile view" the device name becomes empty if the name is unchanged while using the "rename device" option in the network view.

CQ00002980 - PT138078: Firmware Download procedure

Situations occur during FX16 firmware download that never shows "download completed" message.

FX CommPro N2 5.4.1

CQ00002592:

The tool hangs-up for several seconds if the "STOP" button of the window "Stop Downloading" is pressed while the connection with a device is lost.

CQ00002593:

Direct Connection: Device Icon is not updated after application download

The Device icon is not updated to "Device Online" but remains with the icon of "Device Application less".

CQ00002328:

The tool hangs-up for around 10 seconds when clicking the OK button after a Firmware Download failure.

After this time the tool works fine.

CQ00002626:

Application Upload: Error message is shown when uploading a distributed or gateway applications. Completing the upload of a distributed or a gateway application the tool shows an misleading error message. The uploaded application is correct and can be opened using FX Builder.

CQ0000259:

The details view window shows wrong information if a device on the network view is off.

Test Conditions:

Add a device to the network view.

Power off the device;

Remove the device from the network view

Power on the device

Information on the detail view are still present

CQ00002594:

Dial Up Connection: Stop application downloading problem.

If during an application download the "STOP" button is pressed, two windows with the following message appear: "The device is re-initializing, please wait 2 minutes before re-dial it"

Closing these two windows the "Download operation status" window remains hanged-up.

CQ00002427:

FX15, MD20 and MUI2 firmware download problem using the "Prolific" USB- RS232 converter.

Note: A similar problem randomly occurs for the FX06 using the "USB to RS485" converter.

CQ00002793: Application Upload

The Upload form at the end of the operation is not correct. (progress bar and messages are wrong).

Also the "stop" button doesn't work properly: The Upload form shows that the operation was stopped but in reality all the upload file are generated.

CQ00003028:

The tool wrongly shows the string "unreliable" when the user inserts a negative value for the variable with data type 9 (Count_Inc).

CQ00002556 – PT138952: Network view

N2 point addresses start from 0 in FX CommPro. On the contrary Builder addressing starts from 1. Both tools must have the same addressing management.

CQ00002792: Trend Upload

The tool hangs-up if the destination folder of the trend file uploaded from the controller is invalid.

CQ00001166: Pass-Through

The details view doesn't provide information about connection of Third Party Devices (Gateway or physically connected at the FX16+ subnet.)

CQ00001183: Pass-Through

The details view doesn't provide information about connection of Third Party Devices (Gateway or

CQ00001377: Details view

Launching a Physical Scan in Pass-Through mode, devices physically connected to FX16+ Subnet are identified as FX Gateway.