



User Guide

E-DESIGNER/INFORMATION DESIGNER TO IX DEVELOPER
CONVERSION GUIDE

Table of Contents

Introduction.....	3
About this document.....	3
Requirements	3
Preparations to optimize the conversion	3
Review E-Designer/Information Designer project before conversion	4
Prepare E-Designer/Information Designer project before conversion	5
Validate and save project	7
Convert a project to iX Developer	8
After conversion	12
Multi Language	12
Alarms.....	13
Password and Security	16
System Signals	17
System Commands	17
Data Logging	19
Trends	21
Historical Trend data using Data Logger	22
Recipe	23
Data Exchange	23
Time Channels	23
Network Services/Accounts	24
Date and Time	28
Peripherals.....	29
Review Tags and I/O Poll groups	32
Review converted screens and objects	35
Objects that are discarded during conversion	35
Objects that are converted but needs special attention.....	36
General warnings that needs review/attention	38
Screens	48
Action Related Warnings.....	49
Test and verify converted application.....	54
Limitations.....	54
Appendix 1 E-Designer/Information drivers not available in iX Developer	55

Appendix 2 Migration table.....	57
For information see, Migration from EXTER/E1000 to X2 series	57
For information see, Migration from E series/Cimrex to X2 series.....	57
Appendix 3 Adaptor plates.....	58
For information see, Adaptor plates Exter/E1000 to X2	58
For information see, Adaptor plates Cimrex/E-series to X2.....	58
Appendix 4 Cables and connectors	59
X2 base	59
X2 pro, X2 extreme and X2 marine	60
X2 pro 4 / 7 – X2 marine 7	60
X2 pro 7 2E.....	60
X2 pro 10 / 12 / 15 / 21 – X2 marine 15 / 15 SC.....	61
X2 control 4 / 7 / 12 / 15 - X2 marine 7 SC.....	61
X2 extreme x HP / HC	61
X2 extreme x.....	62

Introduction

This document is a step by step guide to convert projects from the obsolete E-Designer/Information Designer platform into iX Developer. It states what to consider when a replacement HMI is chosen from the iX series and how to get started with your converted project.

About this document

This guide should not be considered as a complete manual. It is an aid to be able to start up a normal application in a quick and easy way.

For further information see the iX Developer reference manual and User guide.

- MAxx831x (Reference manual)
- MAxx832x (User Guide)
- MAxx205B (X2 image manual)

This document and other Start-Up documents can be downloaded from www.beijerelectronics.com.

Requirements

- E-Designer 7.52 Build 363 or higher.
- Information Designer 1.52 Build 344 or higher.
- iX Developer 2.40 SP1 (b161) or higher.
- The conversion tool only supports E1000/Exter panel targets.
- Older panel targets need to be updated to corresponding E1000/Exter panel targets before conversion. See KI [KI00256](#) for more details

Preparations to optimize the conversion

To optimize the conversion, it is important to review the E-Designer/Information Designer project. All functions used in E-Designer/Information Designer will not be converted and it is important to take note of all functions that should be included in the new iX application. Some of these functions are only partly converted and some are discarded.

Review E-Designer/Information Designer project before conversion

To create an understanding of which functions that have been utilized in the E-Designer/Information Designer project, review the list below. If used, these functions require attention after the conversion.

- System Signals (**Setup - System Signals**)
 - General system signals
 - Commands
- Password/Security (**Functions - Password**)
 - User names and password
 - Password Properties
- Data logging (**Functions - Data Logger**)
- Data Exchange (**Functions - Data Exchange**)
- Alarms
 - Alarm Groups (**Functions - Alarm Groups**)
 - Alarms (**Functions - Alarms**)
 - Alarm Properties (**Setup - Alarm Properties**)
- Network Services/Accounts (**Setup - Network Services**)
- Time channels (**Functions - Time Channels**)
- Peripherals (**Setup - Peripherals**)
 - Controllers
 - Type of driver
 - Driver settings
 - Internal Variables
 - I/O Poll Groups
 - HMI Tools
 - Transparent mode
 - TCP/IP Connection
 - Printer
 - Expansion port
 - No Protocol Mode
 - Modem
 - X-key Net
- Macro (**Functions - Macro**)
- Date/Time Format (**Functions - Date/Time Format**)
- Recipes (**Setup - Recipe**)

Prepare E-Designer/Information Designer project before conversion

Before converting the project to iX Developer, do the following:

Note! Depending on the design of the original project, all steps may not be necessary.

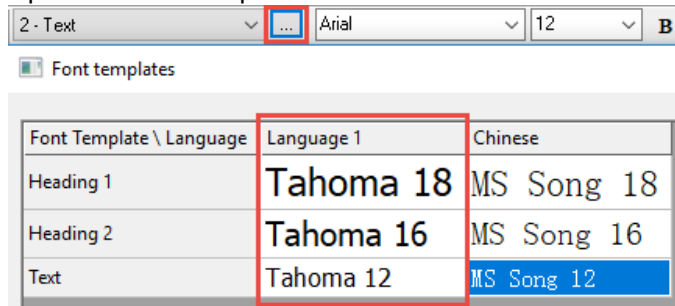
1. Make a backup copy of the original E-Designer/Information Designer project.
2. Open the project in E-Designer/Information Designer.
3. Review used languages and font templates.

The Font Templates in E-Designer/Information Designer controlled which font that was used for the different text objects and languages. This was typically used in multilingual projects to add support for e.g Chinese characters.

iX Developer does not support this functionality, if the original E-Designer/Information Designer application uses font templates to support special character sets it is recommended to update the fonts used for the default language to a font with support for most character sets. For example, Arial Unicode.

Do the following:

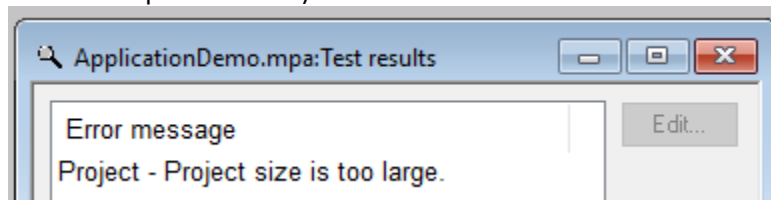
- a. Open the Font Templates.



- b. Change the Font templates for the default language to an appropriate font. For example, Arial Unicode.

Font Template \ Language	Language 1	Chinese
Heading 1	Arial Unicode MS 18	MS Song 18
Heading 2	Arial Unicode MS 16	MS Song 16
Text	Arial Unicode MS 12	MS Song 12

Note! Arial Unicode is a rather big font – it might trigger a warning. If the project was valid before the above-mentioned changes then this message can be ignored (from a conversion point of view):



4. Rebind Name list

If **Name list** is used in the E-Designer/Information Designer project, then objects might have mismatching name and address. To prevent unexpected behaviors, it is recommended to rebind the Name list.

To rebind the Name List, do the following:

- a. Select **View -> Name List**.
- b. Click on **Rebind**.
- c. Change selection to **Update name and retain object address** and click **OK**.

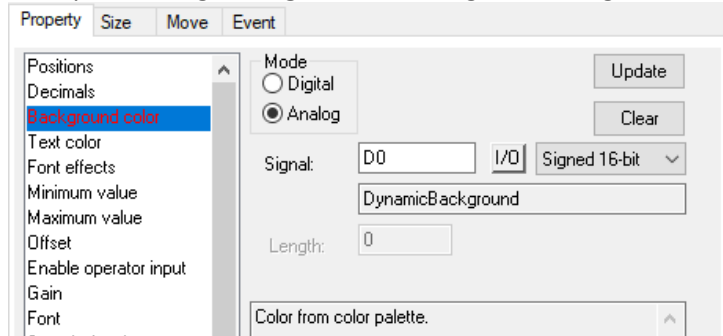
Do this for all drivers.

Note! Depending on the complexity of the project this operation can take several minutes.

5. Colour dynamics and colour mapping

E-Designer/Information Designer supports a feature to dynamically change color of objects based on a “RGB” value. All color combinations represent a value/index.

Example of using **analog** value to change the background color:



iX Developer requires a fixed, limited, set of colors for the analog color dynamics. By default, iX Developer will only map color indexes 0-15, from the E-Designer/Information Designer project, which is the base colors in the color palette.

Information taken from E-Designer/Information Designer help is presented below:

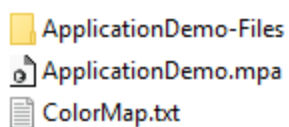
Color from color palette:

0=black	1=dark blue	2=dark green	3=dark cyan
4=dark red	5=magenta	6=dark yellow	7=light gray
8=dark gray	9=light blue	10=light green	11=light cyan
12=light red	13=light magenta	14=light yellow	15=white

16-251: See color palette (**ToolTip**) for these colors.

6. Add support for additional dynamic colors

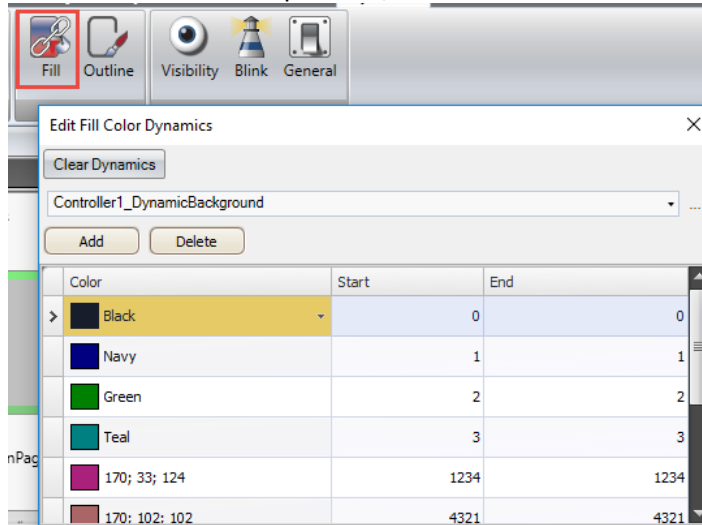
If the E-Designer/Information Designer project uses color indexes outside of the base colors this needs to be added to a text file before conversion. The .txt file needs to have the name *ColorMap* and be located in the root folder of the project.



The color indexes must be comma separated.

Example: 0,1,2,3,1234,4321,2233,4444,5555

After conversion the object(s) will be connected to color dynamics according to the chosen indexes in the ColorMap.txt file, in this case:

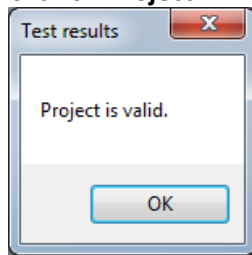


Validate and save project

Test the project and make sure it is **valid**. Do not convert an invalid/incomplete project.

Do the following:

1. Click on **Project** → **Test**.



Make sure the project is saved as a regular .mpa/.cpa file.

This will create a structure of one .mpa/.cpa file and a project files folder containing files such as symbols and driver configuration.

2. Close E-Designer/Information Designer.

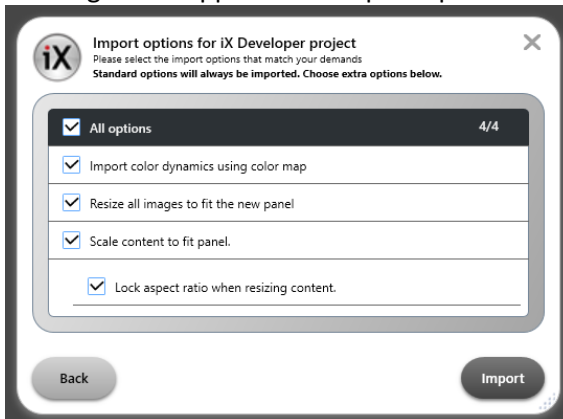
Convert a project to iX Developer

You can either convert in landscape mode or portrait mode. Converting a portrait mode project to iX Developer requires a few more steps.

To convert landscape mode and function key projects to iX Developer, do the following:

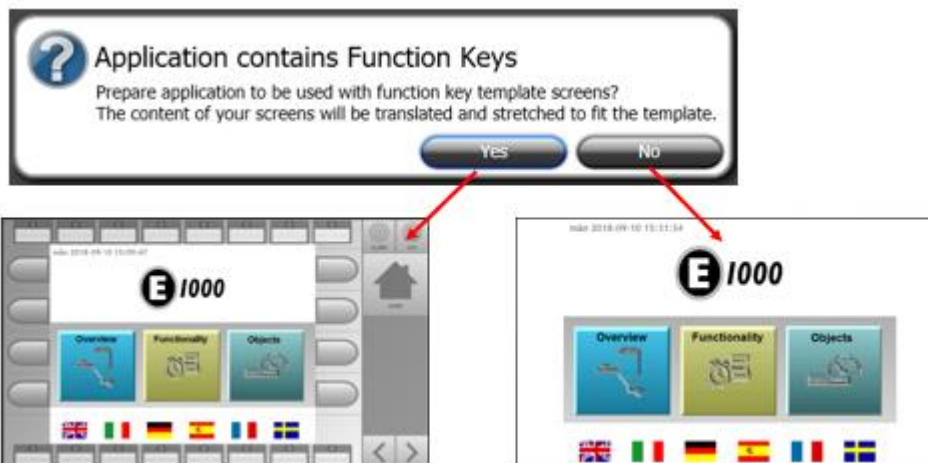
1. Start iX Developer and select **Import Project** in the splash wizard.
2. Select **Browse** to navigate and select which project to import.
3. Select **Target Type** according to the resolution of the original E1000/Exter operator panel. See [conversion table](#) for more details.
4. Click **Finish** to start the conversion.

A dialogue will appear with import options.



Note! It is normally recommended to select all import options to ensure the best result. Once the desired options are checked, press **Import** to continue the import process.

If the original project was developed for a Function key panel then an additional dialogue will appear, allowing the user to select if a function key template screen (containing emulated function keys, LEDS and text strips) should be applied to the screens. Select **Yes** or **No** to continue with the conversion process.



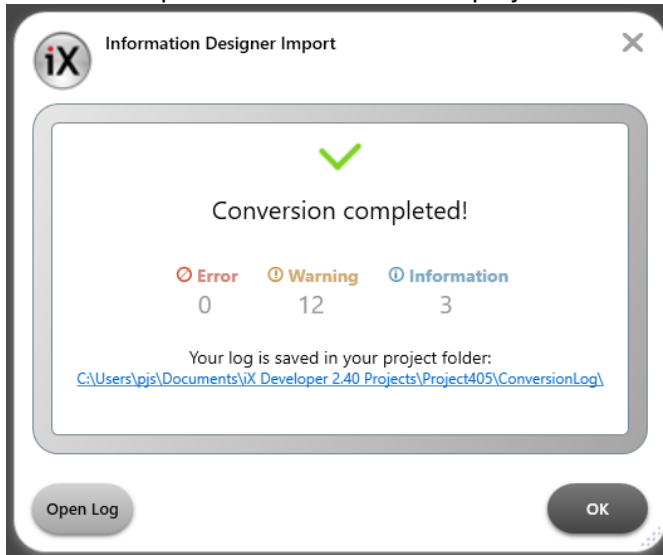
5. Select **New Controller** by following the wizard. It is important that correct controllers are selected in order for iX Developer to be able to handle the imported device addresses from the original E-Designer/Information Designer project.

The conversion may take several minutes. When the conversion is finished, a result dialogue is shown containing the number of Errors, Warnings and Information messages.

Note! The log is automatically saved in the converted project's folder. The path of the log is also displayed in the dialogue.

To open the Log, do the following:

1. Click **Open Log** to open the conversion log file.
2. Click **Close** to proceed to the converted project in iX Developer.

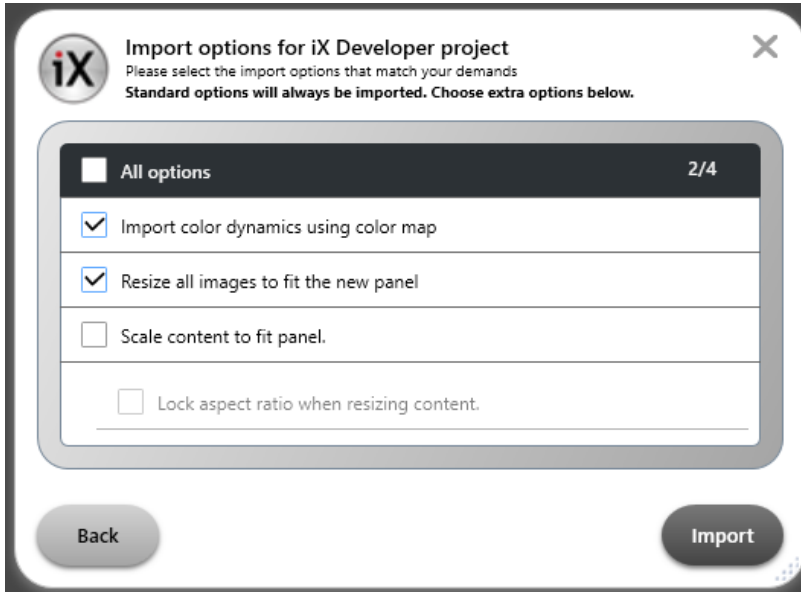


Once the log is open, it displays a summary of all the messages generated during import. They are sorted into Error, Warning and Info messages. Each message is assigned with an ID number to facilitate search.



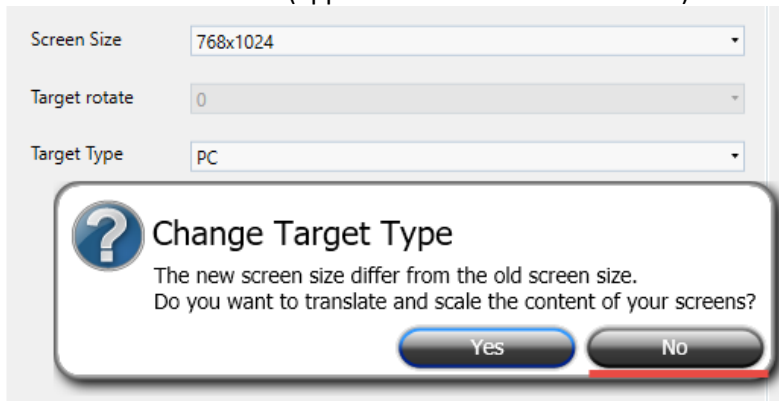
To convert portrait mode projects to iX Developer, do the following.

1. When converting the portrait mode project to iX Developer it is important that it is not scaled:

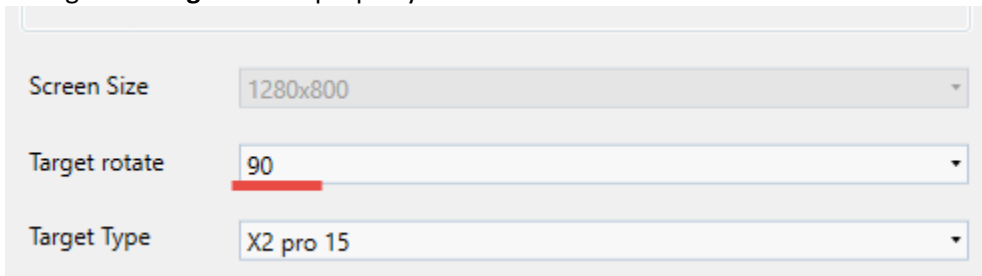


When the conversion is finished the application needs to be converted to a PC-application with the same resolution as the original E1000/Exter application. In this example an E1151/T150 has been used, in portrait mode the resolution is 768x1024.

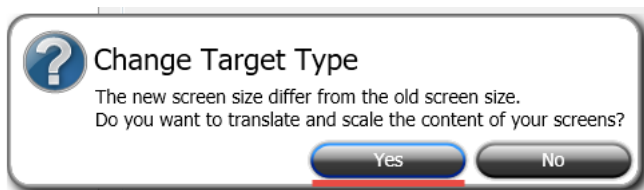
2. Select **Project – Settings** and change the target to PC with an appropriate resolution. Make sure to select **No** (application should **not** be scaled):



3. Change the **Target rotate** property to 90.



4. Select **Yes** so that the converter scales and translates the screen content:



5. Select **Yes** to lock the Aspect Ratio:



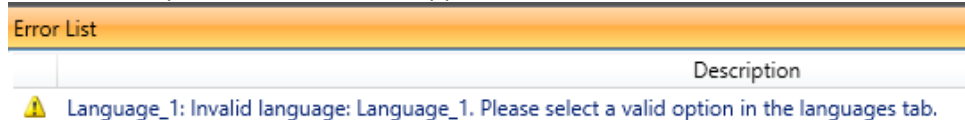
After conversion

When the conversion is finished make sure to review the following functions in the iX Developer application.

Note! Texts may appear cut in iX Developer and simulation, this is usually not the case for the operator panel. Always review the result in the operator panel before making any adjustments in iX Developer.

Multi Language

Multiple warnings may apply to languages. The name of the language used in E-Designer/Information Designer can be set manually and because of that, iX Developer will not recognize the language used. It will still be possible to build the application, but it is recommended to select valid language names.



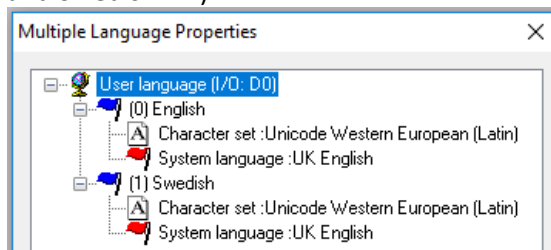
To review the language configuration, do the following:

1. Select **Functions - Multiple Languages - Languages** and set the corresponding language for each language used.
2. Delete unused languages.

The index numbers for the languages needs to be reviewed and adjusted since they might be offset compared to the original E-Designer/Information Designer project.

To review the index numbers, do the following:

1. Open the original project in E-Designer/Information Designer and check which index numbers that are used in the Multiple Language configuration (in this example English = 0 and Swedish = 1):



2. In iX Developer the Default language corresponds to English (Index 0). It is therefore possible to delete English and change the **Index** of Swedish to 1:

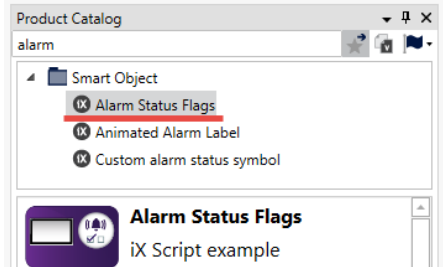
Index	Language	Use in Runtime
0	English	<input type="checkbox"/>
2	Swedish	<input checked="" type="checkbox"/>

Alarms

Alarm Groups and Alarms in E-Designer/Information Designer are converted to the Alarm Server in iX Developer.

Alarm Groups

Alarm Group colors and Remote Acknowledge signal is converted to iX Developer. **Active** and **Unacknowledged summary** signals are currently not converted. These signals are available as a Smart Object in WARP Engineering Studio but are not bound to a specific group.



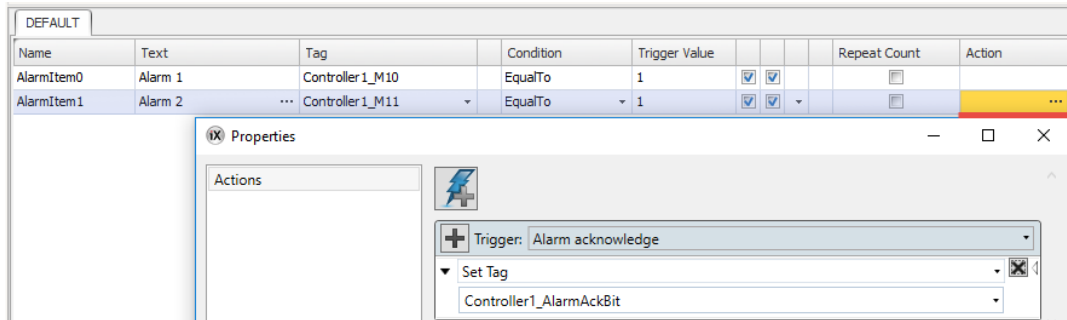
Alarms

Most alarm properties and functions are converted to iX Developer. Properties for **Acknowledge notify** is not converted and needs to be configured manually in iX Developer.

No.:	Signal	Alarm ...	Alarm Text	Ac...	Hi...	To...	Re...	Acknowledge notify
1	M10	1	Alarm 1	YES	YES	NO	NO	
2	M11	1	Alarm 1	YES	YES	NO	NO	M12

To add the same functionality in iX Developer, do the following:

1. Select the alarm item and configure an action to be executed when the **Alarm Acknowledge** is fired



Dynamic tag values are not converted and will generate errors in the conversion log:

Error 1

No converter for element <TxDigText>

Error 1

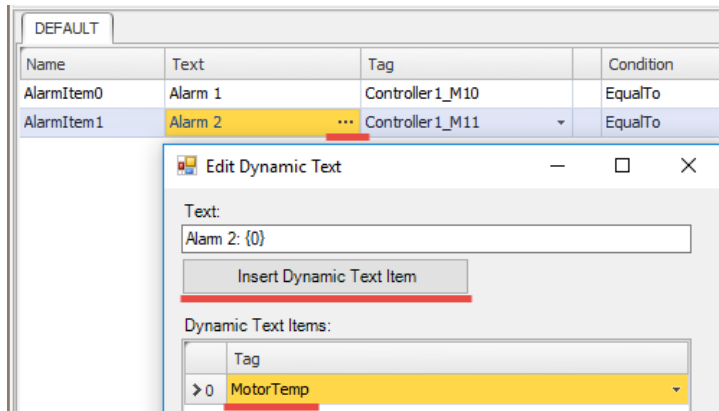
No converter for element <TxAnaNumeric>

Error 1

No converter for element <TxText>

Similar functionality can be implemented by adding dynamic text items in iX Developer:

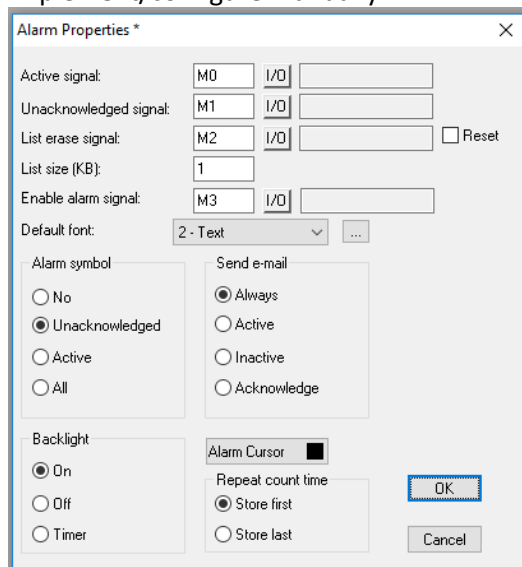
1. Select the alarm item(s) that should get extended texts (including dynamic tag values).
2. Click on the ... and **Insert Dynamic Text** Item and select which tag that should be included in the alarm text:



Printouts and E-mails have been replaced with **Alarm Distributor** functionality in iX Developer. For further information, see the Start Up document, [Alarm Distributor in iX Developer](#).

Alarm Server Properties

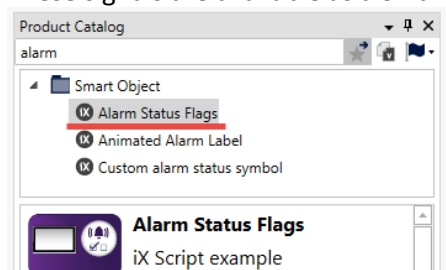
The Alarm Setup in E-Designer/Information Designer contains a mix of summary signals and alarm related properties. These are not converted to iX Developer, but most are possible to implement/configure manually.



Signals and alarm related properties:

- **Active/Unacknowledged signal**

These signals are available as a SmartObject in WARP Engineering Studio.

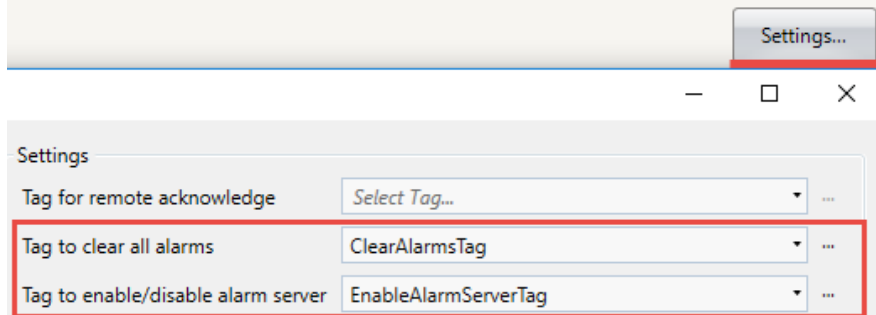


- **List Erase Signal/Enable Alarm Signal**

These signals can be implemented in the Alarm Server's **Settings** dialogue.

Do the following:

1. Click on the Alarm Server **Settings** button and assign tags to **Tag to clear all alarms** and **Tag to enable/disable alarm server**:



- **Alarm list size**

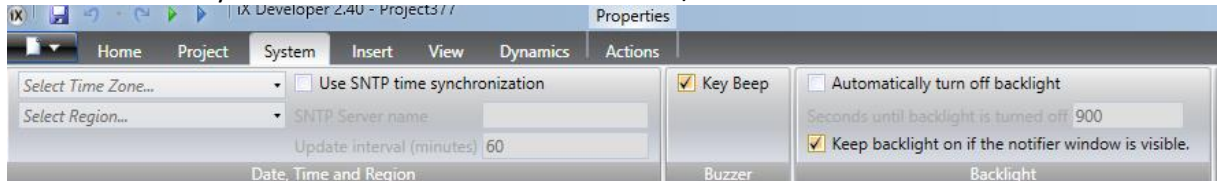
The default alarm max number of logged alarm rows in iX Developer is 500 (X2 base) and 1000 (X2 pro).

- **Send E-mail**

Printouts and E-mails have been replaced with Alarm Distributor functionality in iX Developer. For further information, see the Start Up document, [Alarm Distributor in iX Developer](#).

- **Backlight**

This can be partially solved by either enable/disable **Keep backlight on if the notifier window is visible**. Will only work if the Alarm Indicator is enabled/shown.

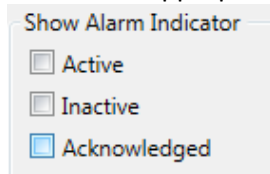


- **Alarm Symbol**

By default, the alarm indicator is activated in iX Developer.

To turn it off, do the following:

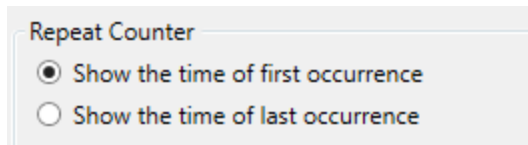
Disable the appropriate states in the Alarm Server settings:



- **Repeat Count Time**

Do the following:

Select **Alarm Server - Settings - Repeat Counter**. Select the Repeat Counter's desired behavior:



Password and Security

The core functions of security such as security on objects and security levels has been converted. To review password, do the following:

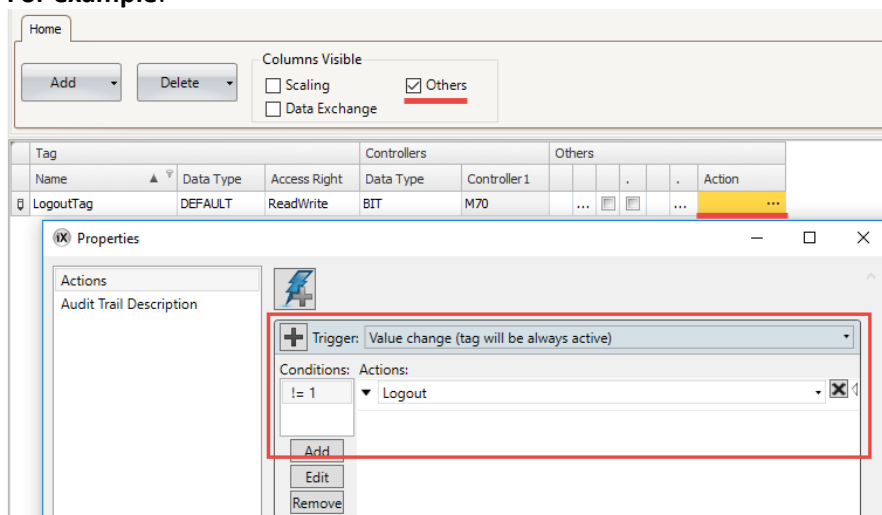
1. Open the E-Designer/Information Designer project and open the password configuration by selecting **Functions - Password**. This will display all the security related settings.
2. Open the Security in iX Developer and edit accordingly. Unused users can be deleted as well.

Example:

Username	Password	Description	Groups
> Level1User	*****		Level1
Level2User	*****		Level1, Level2
Level3User	*****		Level1, Level2, Level3
Level4User	*****		Level1, Level2, Level3, Level4
Level5User	*****		Level1, Level2, Level3, Level4, Level5
Level6User	*****		Level1, Level2, Level3, Level4, Level5, Level6
Level7User	*****		Level1, Level2, Level3, Level4, Level5, Level6, Level7
Level8User	*****		Level1, Level2, Level3, Level4, Level5, Level6, Level7, Level8

3. The **Login/Logout** signals needs to be created manually. Do the following:
 - a. Locate the tag connected to these signals in the tag list, in iX Developer. Use filter.
 - b. Make sure **Others** is checked under **Columns Visible**.
 - c. On the far-right side, the **Action** column is now visible. Click on the field and add an action to login/logout if the signal is not equal to 0 (!=0).

For example:



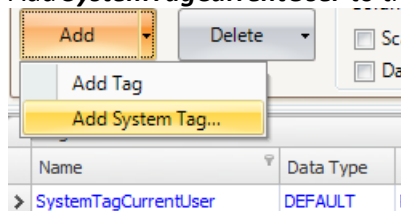
4. The Current level register is not available in iX Developer. A tag action can be added to implement similar behavior in iX Developer...

Do the following:

- a) Add a new tag and connect it to the same address used in the original E-Designer/Information Designer application:

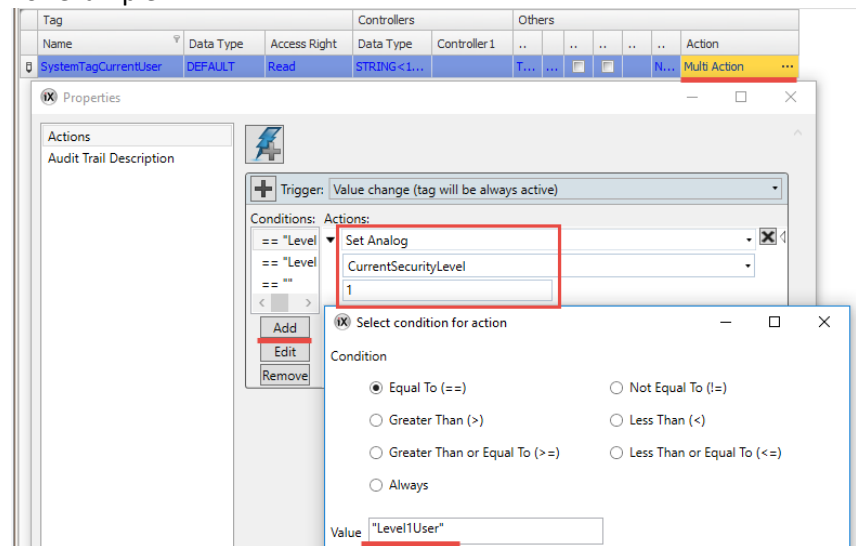
Tag				Controllers	
Name	Data Type	Access Right	Data Type	Controller1	
> CurrentSecurityLevel	DEFAULT	ReadWrite	INT16	D70	

- b) Add **SystemTagCurrentUser** to the application:



- c) Add a tag action that checks which user that is logged in and set an appropriate value in the newly added **CurrentSecurityLevel** tag.

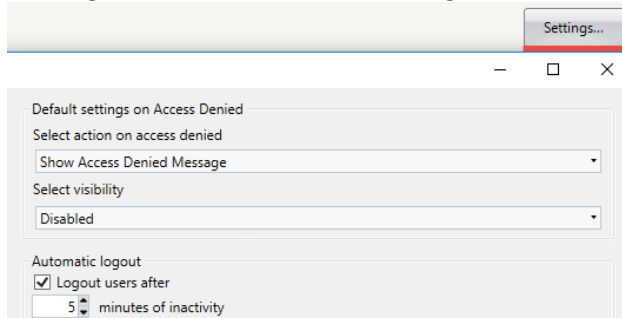
For example:



This needs to be repeated for all users in the application.

Note! If users are added or updated then the tag action needs to be updated as well.

5. The Login timeout is found and configured in the **Security Settings** in iX Developer:



System Signals

Not all system signals are converted and therefore needs to be reviewed, do the following:

- E-Designer/Information Designer: Select **Setup – System Signals** and check which signals have been used in the project.
- In iX Developer, select **Tags - System Tag** to import the relevant system tags to the iX application.

Note! The **SystemTagBacklightBrightnessLevel** describes the backlight in percent (0 = fully dimmed and 100 = fully on). This is the opposite to the **Dim Backlight Reg** used in E-Designer/Information Designer. It is possible to achieve a similar result by scaling the value (Offset = -1 and Gain = 100).

System Commands

Commands activate additional features and functions which can be of great importance. Available commands are documented in the E-Designer/Information Designer help.

The following commads have been recognized as commonly used:

Command	Function description	iX Developer solution
SJAFx	Displays the text “Remote access” in the upper right corner when a VNC client is connected. x = character size.	See chapter Remote Access
PSxxxxxx	Password that overrides all other password levels. Useful for support and maintenance.	See chapter PSxxxxxx
ABUPx	Alarm Backup	See chapter Backup
PLCU	OEM Loader Functionality for Melsec FX PLC	Configured in the FX Serial driver’s properties
DBC	Disable Block Cache	No longer relevant
VNCDx	VNC Disconnect	Not available in iX
DSO	Block will not be drawn until all signals from PLC have been read.	No longer relevant
MCIx	MemCardInserted. Sets the digital signal x when a memory card is inserted.	Not available in iX
FTNO	Deletes rows with OFF flags in trend files when FTP is used.	No longer relevant
TBUPx	Trend Backup. Used for backup copy of trend files on external memory card.	See chapter Backup , Data Logging and Trends .
TBSn	The command is to be followed by one character that indicates which trends or data loggers that are to be copied to the external memory card. Only trends and data loggers that begin with this character will be copied when the TBUP signal is set.	See chapter Backup , Data Logging and Trends .
TMBn	Trend Multi Backup. Used together with the command TBUP to get more backup libraries on the backup card.	See chapter TMBn .
TESOSn	Storage of one trend sample only when the signal. Enable sampling signal is set to 1. If n = *, all trend objects are affected. If n = T, only trend objects that begin with T are affected.	See chapter Backup , Data Logging and Trends .

Note! In E-Designer/Information Designer, backup of Trends also includes Data Loggers.

PSxxxxxx

To convert this functionality, do the following:

1. In iX Developer, add a user in *Security* which belongs to all groups.

It is possible to hide the user from being visible in runtime.

Name	Users	Users Invisible...
> Level8	Level8User	<input checked="" type="checkbox"/>
Level7	Level7User, Level8User	<input type="checkbox"/>
Level6	Level6User, Level7User, Level8User	<input type="checkbox"/>

Note! Different from E-Designer/Information Designer is that a user name is required to login in iX Developer.

TMBn

This command will set the maximum number of folders that will be created on backup before they get overwritten. The default behavior without this command is to overwrite the backup. The functionality is covered, by default, on Database Export in iX Developer.

Note! The maximum number of files which can be stored in a folder is 900 and will cover the E-Designer/Information Designer functionality.

There are two options related to what should happen if the maximum number of files in a folder is exceeded, either delete old files or group files by date.

Group files by date function

This will put the exported files into folders with name same as that of the current date. If the files in the current folder exceed 900, it will create a new folder with name as current date with a number suffix (e.g.: 20170309, 20170309_1, 20170309_2, etc.)

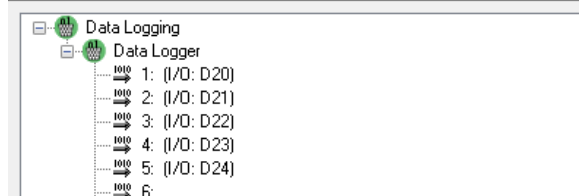
Data Logging

The **Data Logging** functionality needs to be added manually to the iX Developer project.

Warning 1

Conversion discarded for <Data Logging>

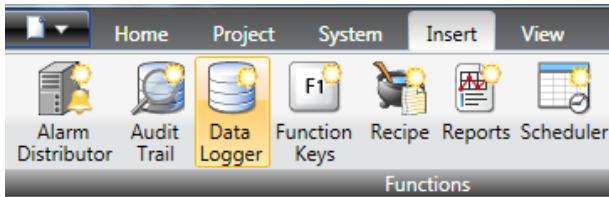
Example from E-Designer/Information Designer:



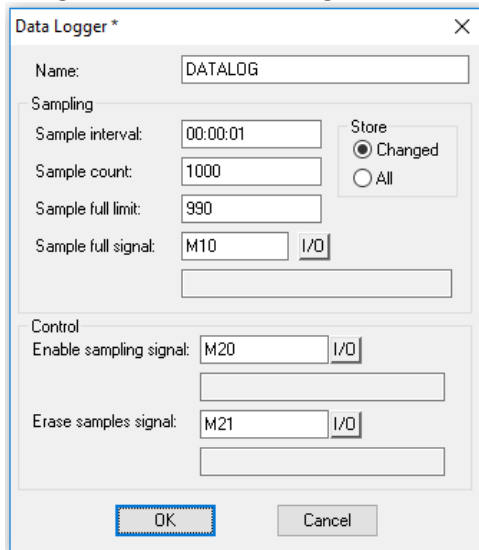
Note! Before starting the implementation in iX Developer it is recommended to review **the Maximizing the Lifetime of the Storage Media** chapter in the iX Reference manual.

To add **Data Loggers**, in iX Developer, do the following:

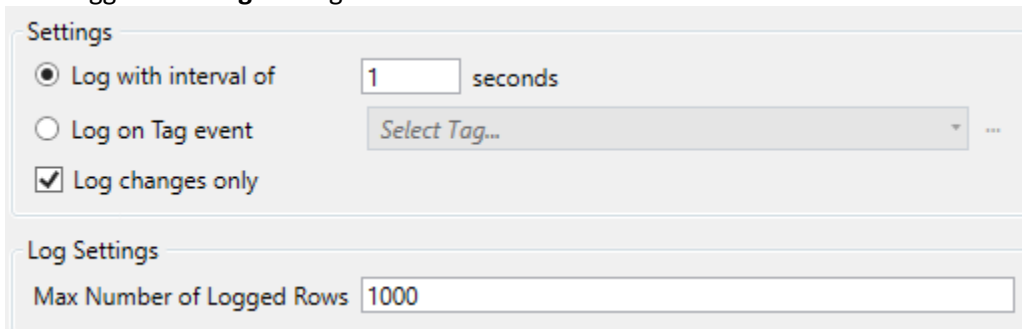
1. Select the **Insert** tab and choose **Data Logger**.



2. Add the same number of Data Loggers and rename them according to the E-Designer/Information Designer project.
3. Copy the variable names from E-Designer/Information Designer and create the log items in iX Developer.
4. Configure each **Data Logger's** properties, the following settings are available in E-Designer/Information Designer:



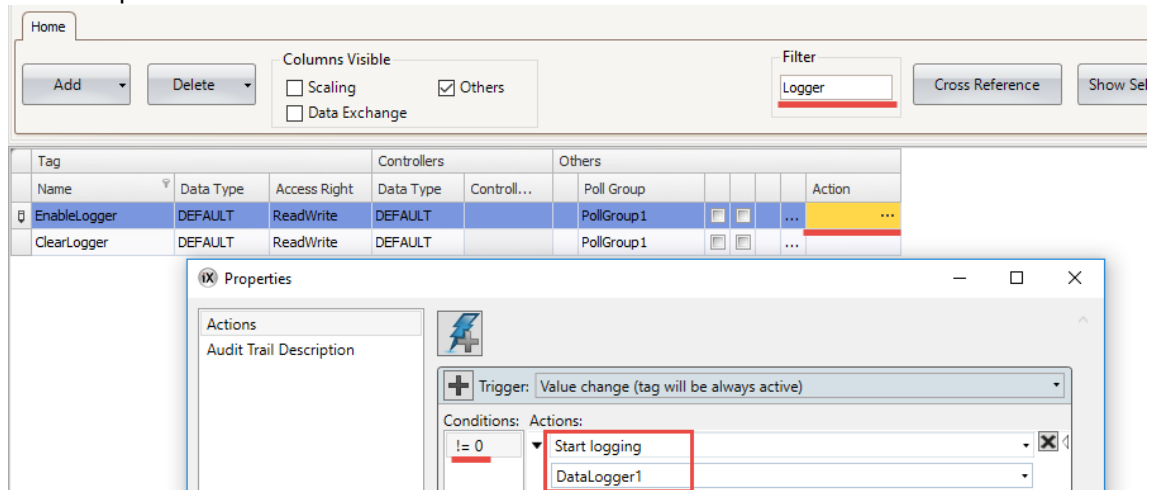
All properties except **Sample full limit** and **Sample full signal** can be configured in the DataLogger's **Settings** dialogue:



To implement **Enable sampling** and **Erase Samples** signals through Tag actions, do the following:

1. Locate the tags connected to these signals in the tag list, in iX Developer. Use filter.
2. Make sure **Others** is checked under Columns Visible.
3. On the far-right side, the Action column is now visible. Click on the field and add an action to **Start Logging/Clear Data Logger** if the signal is not equal to 0 (!=0).

For example:



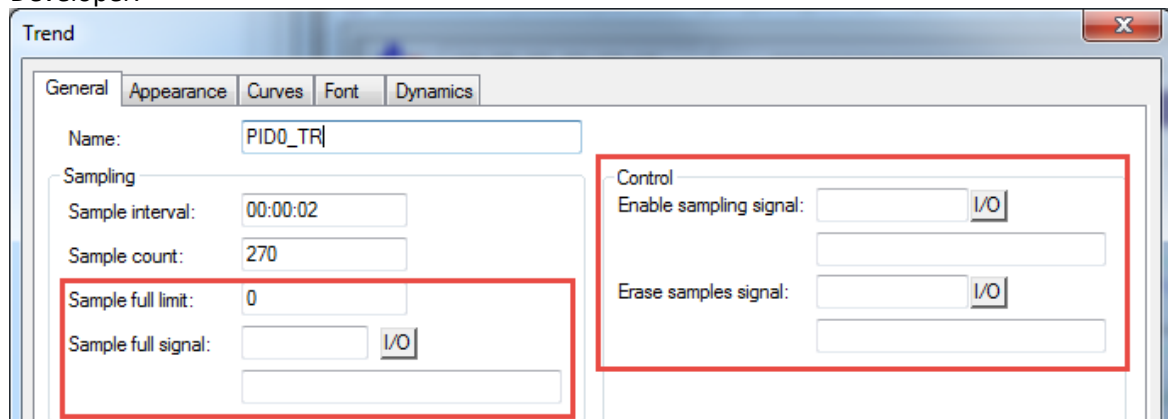
Trends

Trend objects are converted to non-historical (real time) **Trend Viewers** in iX Developer. This means that the data is only stored in the RAM-memory and will be lost on power cycle. This is different from E-Designer/Information Designer as the Trend can be seen as a Data Logger and will always show stored historical data values. To present historical values in iX Developer a Data Logger needs to be added and connected to the **Trend Viewer** object.

Note! It should be considered if store/show historical data is necessary to keep.

Depending on the **Commands** used in **System Signals**, the **Trends** can also be affected by backup functionality. This will require a **Data Logger**. The name of the Trend in E-Designer/Information Designer can affect whether or not it is included in the backup.

If Control are used in the Trend object then use the same procedure as described under [Data logging](#). The **Sample full limit** and **Sample full signals** are not available as standard functionality in iX Developer.



iX Developer's **TrendViewer** object does not include actions for showing history, zoom and pan. This can however be implemented by usage of actions, script and dynamics (depending on complexity). For more information, see the Start-up document [Setting up Trend Viewer in iX Developer](#).

Historical Trend data using Data Logger

To change from **Real time trend** to **Historical trend**, do the following:

1. Add **Data Logger** for each **Trend** object that is required to show historical data.
2. Setup **Data Logger** with sample interval etc., according to the E-Designer/Information Designer project, under **Data Logger – Settings**.
3. Add **LogItems** according to the iX Developer Trend settings.

For example:

Name	Tag	Exp
LogTemp	Temperature	
LogHumidity	Humidity	

4. Connect the trend curves to **Log Item(s)** instead of **Tag(s)**:

The screenshot shows the 'Configure Curves' dialog box. The 'Edit Curves' button is highlighted with a red box. The 'Log Item' dropdown menu is also highlighted with a red box, showing 'DataLogger1' expanded with 'LogTemp' and 'LogHumidity' selected. The dialog box includes fields for 'Min Value', 'Max Value', 'Major Ticks', 'Minor Ticks', and 'Time Range'.

Note! Expressions also have to be setup, if used.

Backup

The backup functionality in E-Designer/Information Designer is triggered by System commands. If used, they can be found by selecting **Setup – System Signals** in E-Designer/Information Designer.

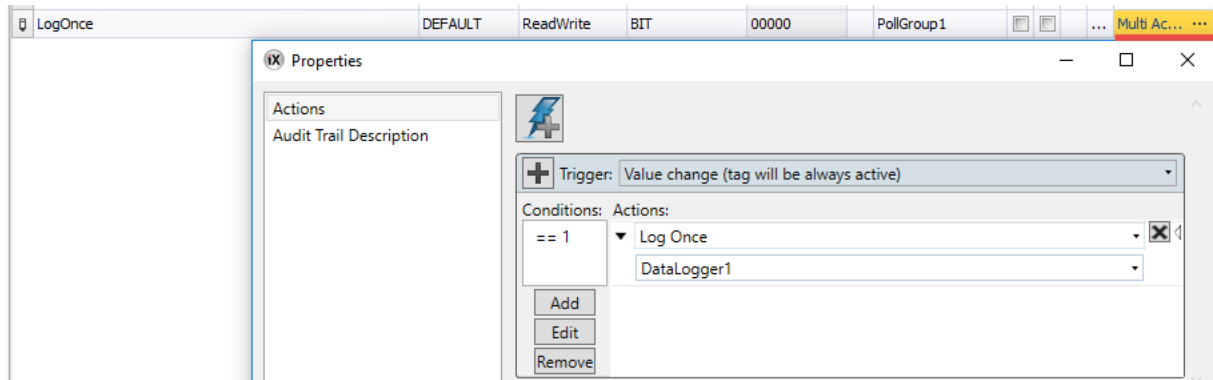
Note! Trends and Data Loggers are treated the same by the backup functionality in E-Designer/Information Designer.

TBUPn	Tred Backup. Used for backup copy of trend files on external memory card.
TBSn	The command is to be followed by one character that indicates which trends or data loggers that are to be copied to the external memory card. Only trends and data loggers that begin with this character will be copied when the TBUP signal is set.
TESOSn	Storage of one trend sample only when the Enable sampling signal is set to 1. If n = *, all trend objects are affected. If n = T, only trend objects that begin with T are affected.

The connected variable used on **TBUPn** will, when true, start a backup of all Trend/Data Logger objects. When the backup is finalized the variable will be reset.

If the **TBSn** command is also used, the **TBUPn** command will only affect Trends/Data Logger that start with the characters used in the **TBSn** command. For example, "TBSZ" will change the **TBUPn** command to only affect Trends/Data Loggers that begins with "Z".

The TESOSn command is easiest converted using tag actions to execute a **Data Logger - Log Once** action.



To convert the functionality of **TBUPn** and **TBSn**, do the following:

1. Note which **Trends** and **Data Logger** that should be backed up.
2. Add **Multi Action** on the **Tag**, earlier used with **TBUPn**, with **Database Export** on the **Data Loggers** that should be included. Also make sure to reset the **Tag** as last action.

Recipe

Due to major differences in how recipes are handled in E-Designer/Information Designer this functionality is not converted to iX Developer.

Warning 1
Conversion discarded for <Recipe>

This means that it needs to be configured manually. PLC Controlled Recipes are not supported at all in iX Developer – consider using the standard recipe functionality instead. See iX Developer reference manual for further details.

Data Exchange

Data Exchange is discarded in the conversion and needs to be manually configured and added to the iX application.

Warning 1
Conversion discarded for <Data Exchange>

For further information, see the Start Up document, [Configuring data exchange in iX Developer](#).

Time Channels

Time Channels are not converted and needs to be added manually. The corresponding functionality in iX Developer is called **Scheduler**.

Warning 1
Conversion discarded for <Time Channels>

To add the same functionality in iX Developer, do the following:

- a) Add **Scheduler** from the **Insert** ribbon tab.
- b) Setup the channels manually.

Note! Online editing of **Schedulers** is not supported in iX developer.

Warning 1
Conversion discarded for <Online Properties>

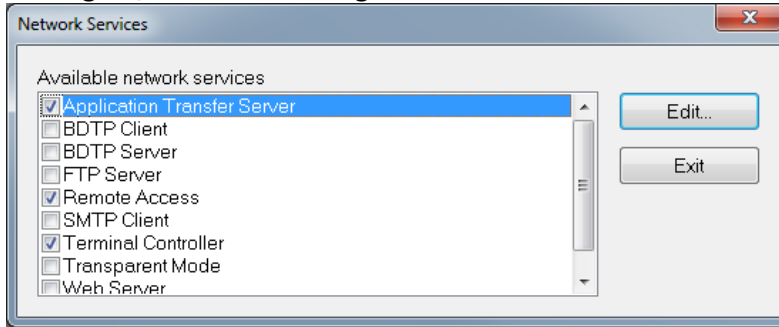
Network Services/Accounts

Several network services are available in E-Designer/Information Designer. The different services can be found under **Network Connection – Network Services**. These services are not converted and must be added manually.

Warning 1

Conversion discarded for <Network Services>

E-Designer/Information Designer:



Remote Access

Remote access can be enabled from the **System** tab:



Enable Remote Access Server	<input checked="" type="checkbox"/>
Viewer TCP Port	5900
Web Browser TCP Port	5800
View Only Password	rG)5oqpE
Full Access Password	J/?9EenY
Notify when connection is active	<input checked="" type="checkbox"/>

If the system command **SJAFx** is used in E-Designer/Information Designer, the function **Notify when connection is active** should be activated.

For more information, see the Start Up document, [Remote Access \(FTP and VNC\) in iX Developer](#).

FTP Server

The **FTP Server** can be configured from the **System** tab:



Settings	
Enable FTP server	<input checked="" type="checkbox"/>
Allow anonymous login	<input type="checkbox"/>
SD-card access	<input type="checkbox"/>
USB-memory access	<input type="checkbox"/>
Username	user
Password	{h;}5\$^BIUcwy;

For more information, see the Start Up document, [Remote Access \(FTP and VNC\) in iX Developer](#).

Web Server

The **Web Server** can be configured from the **System** tab:



HTML websites developed for E1000/Exter cannot be reused in iX Developer since different frameworks have been used (E1000/EXTER uses CGI/SSI scripts and iX uses a JavaScript SDK). For further information, see the Start Up document, [Web Server in iX Developer](#).

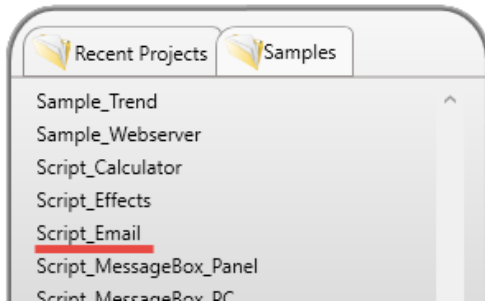
BDTP Client/Server

BDTP is not supported by iX Developer. It is possible to exchange tag data using OPC UA, the panels can act both as OPC UA Server and Client. For further information, see the Start Up document, [OPC UA Server - iX Developer](#).

SMTP Client

The SMTP Client in E-Designer/Information Designer can send alarm and report e-mails.

Printouts and E-mails have been replaced with Alarm Distributor functionality in iX Developer. For further information, see the Start Up document, [Alarm Distributor in iX Developer](#). Using script it is possible to attach a report file to an e-mail. See the **Script_Email**-application in iX Developer for an E-mail script sample:



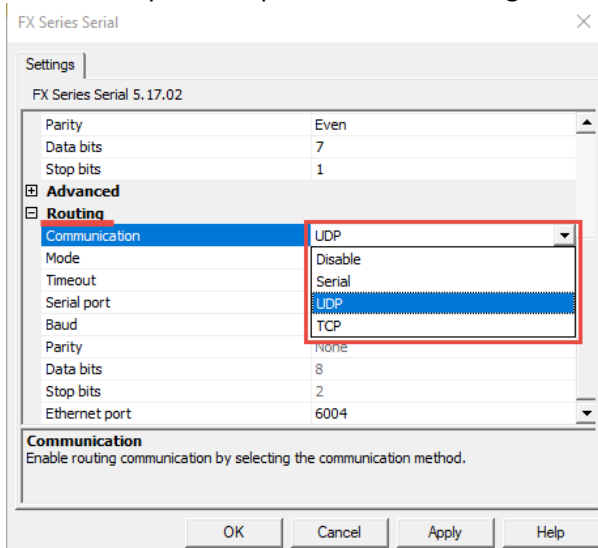
Transparent Mode (TCP/UDP)

The configuration for Transparent Mode is not converted to iX Developer.

Warning 1

Conversion discarded for <Peripherals - Transparent Mode>

In iX Developer Transparent mode is configured in the driver properties (**Routing**):



For further information, see the Start Up document, [Transparent mode with iX Developer](#).

Network Accounts

E-Designer/Information Designer includes functionality to add different users to Network Accounts. This is not converted to iX Developer.

Warning 1

Conversion discarded for <Network Accounts>

These users have different access rights to the following functionality:

Serial connect

The user can use serial connection (PPP).

- PPP connections are not supported by iX Developer – this functionality is therefore not applicable.

Access terminal controller

The user can implement RUN/TRANSFER switching through TCP/IP.

- This functionality is not supported by iX Developer.

FTP access/write

The user can read/write from/to the FTP server (the panel).

- In iX Developer it is possible to configure one user name/password for the FTP-server (similar to one single Network user account). See the [FTP Server](#) for more information.

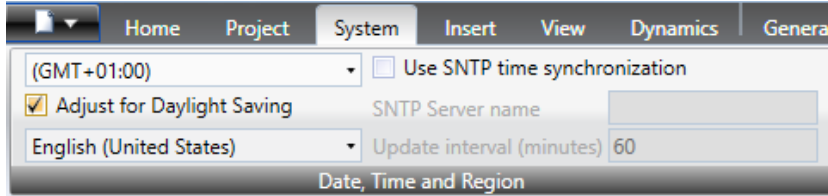
Date and Time

Date and Time settings must be set manually after conversion.

Warning 1

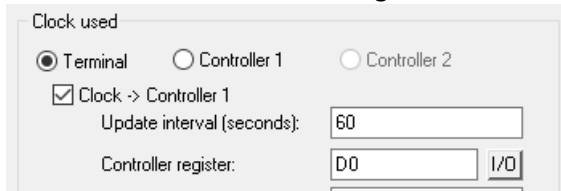
Conversion discarded for <Date/Time Format>

Settings in iX Developer will be found under the **System** tab. Date/time format and Daylight saving are based on the **Time Zone** and **Regional** settings found under the **System** ribbon tab.



HMI to controller clock transfer

Clock synchronization is handled differently in iX Developer compared to E-Designer/Information Designer. In E-Designer/Information Designer an **Update interval** and **Controller register** decides how often and to which data registers the clock data should be written to:



Details regarding the registers written from HMI to controller, from the E-Designer/Information Designer Reference manual.

CR	Seconds
CR+1	Minutes
CR+2	Hours
CR+3	Day
CR+4	Month
CR+5	Year
CR+6	Day of week (1-7, where 1 is Sunday)

To get the same functionality in iX Developer, **System Tags** must be used, and the addresses/tags must be connected manually. Values will be written from the operator panel to controller on value change.

DateTime	Current date and time
Day	Day component of current date
Day of Week	Day of current week (1-7 where 1 is Sunday)
Hour	Hour component of current time
Minute	Minute component of current time
Month	Month component of current date
Second	Second component of current time
Year	Year component of current date

Example in iX Developer (based on example from E-Designer above):

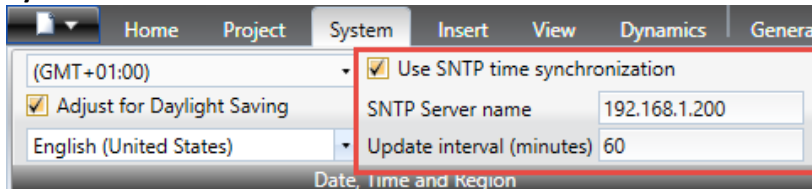
SystemTagSecond	DEFAULT	Read	INT16	D0
SystemTagMinute	DEFAULT	Read	INT16	D1
SystemTagHour	DEFAULT	Read	INT16	D2
SystemTagDay	DEFAULT	Read	INT16	D3
SystemTagMonth	DEFAULT	Read	INT16	D4
SystemTagYear	DEFAULT	Read	INT16	D5
> SystemTagDayofWeek	DEFAULT	Read	INT16	D6

Controller to HMI clock synchronization

This function is not a standard feature in iX Developer. It is possible to implement using C#-script and a basic sample (that will need adaptations) can be found [here](#).

SNTP Time Synchronization

SNTP time synchronization of the operator panel clock against an external SNTP (Simple Network Time Protocol) server is supported in iX Developer as well. The settings are found by selecting the **System** ribbon tab:

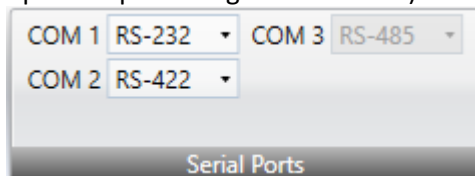


Peripherals

The converter does not handle or convert any of the peripheral functions/configurations. This needs to be configured manually.

Serial Port Configuration

It is possible to configure if the Serial Ports should use RS232, RS422 or RS485 (depends on which operator panel target that is used) from the **System** ribbon tab:



In the **Driver properties** it is possible to decide which Serial Port and port parameters (such as baud, parity, stopbits and databits) that should be used by the communication driver, see chapter [Controllers](#).

HMI Tools

HMI Tools was used to handle serial file transfer with E1000/Exter operator panels. This protocol is not supported by iX Developer.

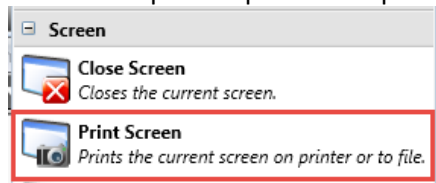
Use the FTP functionality to get similar functionality in iX Developer/X2 operator panels. For more information, see the chapter about [FTP Server](#).

Printer

E-Designer/Information Designer supports graphical printouts (of blocks) and text/report printouts. This functionality is not converted to iX Developer and will generate a warning:

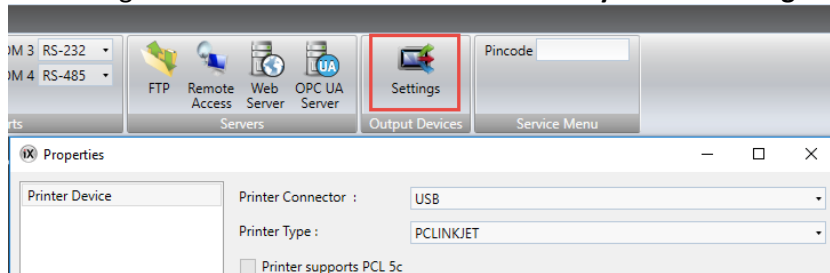
Warning 1
Conversion discarded for <Peripherals - Printer>

In iX Developer it is possible to print a screen by using the **Print Screen** action:



iX Developer includes support for report generation. It requires the developer to create an excel template, it can contain both historical data and tag data. The report can either be saved to file or printed. For more details, see the Start Up document, [Report Generator in iX Developer](#).

The configuration of the Printer is carried out in **System -> Settings**.



No Protocol Mode

No Protocol Mode is used to send/receive custom strings via the operator panel's Serial Port. This functionality is not converted to iX Developer but it is possible to implement C# script to get similar functionality. [Useful links](#)

Warning 1
Conversion discarded for <Peripherals - No Protocol Mode>

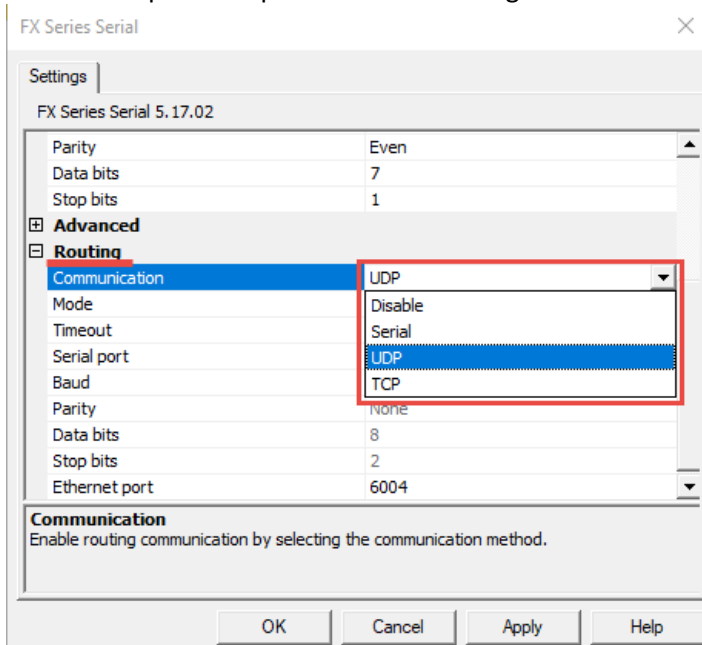
Transparent Mode

The configuration for Transparent Mode is not converted to iX Developer.

Warning 1

Conversion discarded for <Peripherals - Transparent Mode>

In iX Developer Transparent mode is configured in the driver properties (**Routing**):



For further information, see the Start Up document, [Transparent mode with iX Developer](#).

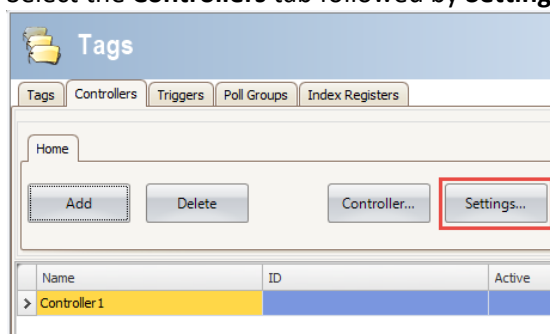
Controllers

The driver properties are not converted to iX Developer. This means that the driver properties for all drivers needs to be configured.

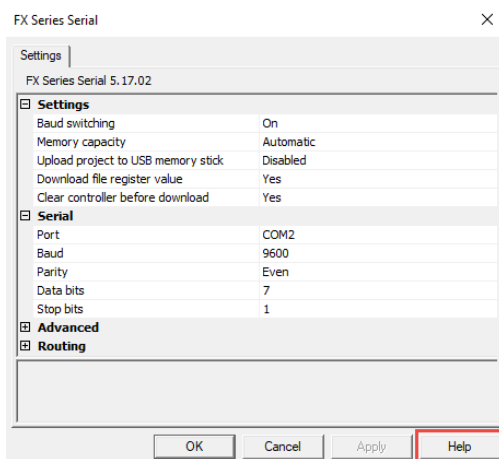
Error 1

No converter for element <Driver>

Select the **Controllers** tab followed by **Settings** to open the driver properties dialogue.



Make sure to open the driver help and check which communication cable(s) that can be used for the selected driver. The driver help also contains valuable information such as release notes, address syntax, settings and troubleshooting advice.



Modem

The Modem functionality is not converted to iX Developer.

Warning 1

Conversion discarded for <Peripherals - Modem>

This functionality is not a standard function in iX Developer. Currently, it is only the Comli Slave driver that includes support for modem functionality. If this support is needed for other drivers then contact and request it from your local Beijer Electronics sales representative.

Expansion Port

The expansion port in E-Designer/Information Designer adds support for CAN and Profibus communication.

Warning 1

Conversion discarded for <Peripherals - Expansion port>

CiX-CAN and CiX-DP modules are available for most X2 panels and can be used instead.

X-keyNet

X-keyNet is not supported by iX Developer.

Warning 1

Conversion discarded for <Peripherals - X-KeyNet>

A possible work-around is to use an external USB keyboard. Contact Beijer Electronics Technical support to discuss other possible workarounds.

Review Tags and I/O Poll groups

Review the tag list and assure that data types, scaling, addresses, indexes etc. are correct.

I/O Poll interval group

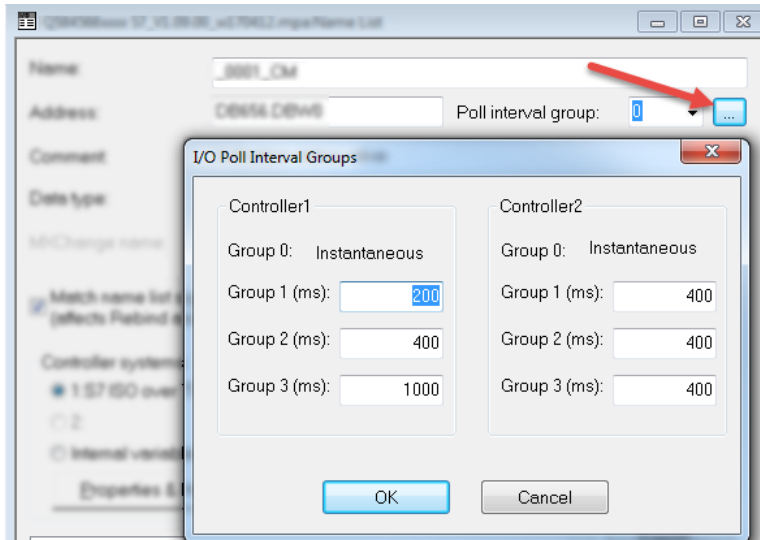
The poll interval of the different I/O Poll Groups needs to be manually set in the iX Developer project.

Warning 1

Conversion discarded for <I/O Poll Groups>

Do the following:

1. Open the original project in E-Designer/Information Designer, open the **Name List** and note which poll groups and intervals that have been used.
2. Click on the button on the right side of **Poll interval group**.



It is possible to see which poll groups that have been used in the E-Designer/Information Designer project by clicking on the **Pollgroup** column header – the name list will then be sorted:

Name	I/O	Data type	Index	Comment	Pollgroup
Tag1	M0	Bit			0
Tag2	M1	Bit			1
Tag3	M2	Bit			2

3. In iX Developer the Poll Groups are found in **Tags - Poll Groups**

Name	Interval
PollGroup1	200
PollGroup2	400
PollGroup3	1000
PollGroup4	500
PollGroup5	500

It is possible to configure which Poll Group that should be used (make sure that the Others checkbox is checked) in the Tag Editor:

Tag	Data Type	Access Right	Controllers	Others
Tag1	DEFAULT	ReadWrite	INT16 D10	PollGroup1
Controller1_M0	DEFAULT	ReadWrite	BIT M0	PollGroup1

Data Type Conversion Table

Format	Data type Information Designer/E-Designer	Data type iX Developer	Range
Bit	Bit	BIT	0 and 1
Bool	-	BOOL	Values can be “false” (0) or “true” (1) ¹
Signed 16-bit	Signed 16-bit	INT16	-32,768 – +32,767
Unsigned 16-bit	Unsigned 16-bit	UINT16	0 – +65,535
Signed 32-bit	Signed 32-bit	INT32	-2,147,483,648 – +2,147,483,647 ²
Unsigned 32-bit	Unsigned 32-bit	UINT32	0 – +4,294,967,295 ²
Float with exponent, 64-bit	-	DOUBLE	1.7E308 ¹
Float with exponent, 32-bit	Float with exponent	FLOAT	±3.4E38 ¹
7 x Signed 16-bit	-	DATETIME	An Analog Numeric object can present the time format ³ . See help for more information.
String	String	STRING	Storing character strings in tags. For this data type, size can be selected.
BCD Float	BCD Float	FLOAT ⁴	0 – 9999,9999
BCD 16-bit	BCD 16-bit	INT/UINT16 ⁴	0 - 9999
BCD 32-bit	BCD 32-bit	INT/UINT32 ⁴	0 - 99999999
HEX 16-bit	HEX 16-bit	INT/UINT16 ⁴	0 - FFFF
HEX 32-bit	HEX 32-bit	INT/UINT32 ⁴	0 – FFFF FFFF

1. Controller representation for this type is dependent on the driver software.
2. Regarding resolution of values in 32-bit format: both iX Developer and the operator panel can handle up to six decimal digits of an integer 32-bit value. Remaining digits will be truncated or changed into zeros.
3. yyyy = year, MM = month, dd = date, hh = hour, mm = minute, ss = second.
4. Displayed value has to be correctly configured for the specific object, not the tag in general.

Review converted screens and objects

At this point it is time to review the converted screens and objects. The conversion log will contain errors and warnings that needs to be reviewed. It is important to be aware that the messages are displayed in order of the conversion process. To get a better understanding of where the error occurred, display all messages and look at the previous Information log row. The logfile is automatically saved in the **ConversionLog** folder found in the iX project folder.

Most objects are converted relatively well but gaps exist where properties and dynamics are missing and/or not converted. The following chapters will try to outline some of the most common warning/error messages.

Objects that are discarded during conversion

Some objects are not converted at all, see the list below:

Arc Object

The Arc object is discarded during the conversion. The following error message will be displayed in the log:

Error 1
[MainPage] No converter for element <GrArc>

Possible work-around:

1. Review the Conversion log and find the screen where the object is located.
2. Use a static picture or consider if other drawing primitives could be used instead.

Analog Numeric Table Object

The Analog Numeric Table object is discarded during the conversion. The following error message will be displayed in the log:

Error 1
[MainPage] No converter for element < GrNumericTable >

Possible work-around:

1. Review the Conversion log and find the screen where the object is located.
2. Create a series of object by adding an Analog Numeric object to the screen and connect it to a tag.
3. Right click and select **Create Series**.
4. Choose how many columns/rows that should be created as well as the spacing.
5. Click on **OK** – a matrix of Analog Numeric objects will now be added to the screen and tags will be generated automatically.

Analog Clock object

The Analog Clock object is discarded during the conversion. The following error message will be displayed in the log:

Error 1
[MainPage] No converter for element < GrClockAnalog >

Possible work-around:

1. Review the Conversion log and find the screen where the object is located.
2. Add a **Digital Clock** object to the screen instead.

Diagram object

The Diagram object is discarded during the conversion. The following error message will be displayed in the log:

Error 1
[MainPage] No converter for element < GrDiagram >

Possible work-around:

1. Review the Conversion log and find the screen where the object is located.
2. Manually add and configure a Chart object to the screen instead.

Objects that are converted but needs special attention

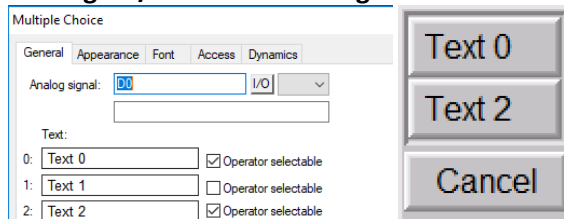
Most objects are converted. However, when comparing E-Designer/Information Designer with iX Developer there are a couple of objects that are converted but the supported functionality might differ a lot. This means that these objects require special attention/review.

Multiple Choice object

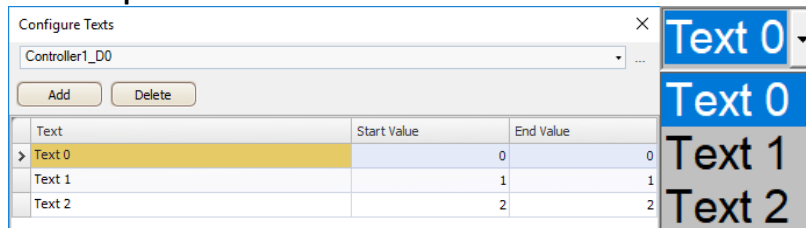
The Multiple-Choice object is converted to a **ComboBox** object in iX Developer. There are a few things that is important to be aware of:

- The **ComboBox** object normally requires larger space to be able to fit/show the text. The object's size might need to be manually adjusted.
- In E-Designer/Information Designer it is possible to select which states that should be selectable. After conversion **all** states will be selectable.
- Fewer properties can be controlled via dynamics.

E-Designer/Information Designer



iX Developer



Message object

The Message object is converted to iX Developer but it is important to be aware of a couple of limitations:

- Object does not support input selection in runtime.
- No support for **Dynamic Library No.**
- Fewer properties can be controlled via dynamics.

Digital/Analog fill objects

The Analog/Digital Fill object in E-Designer/Information Designer is similar to the Fill function in e.g. Paint. The area in which the Analog/Digital Fill object is placed will be filled with a color according to an analog/digital value.

During the conversion process warnings will be added to the log for each Digital/Analog fill object.

Warning 1

[MainPage] Converted 'Digital Fill' into an ellipse located at (x , y)

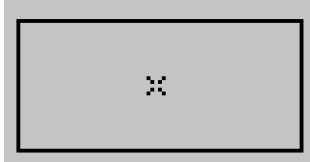
Warning 2

[MainPage] Converted 'Analog Fill' into an ellipse located at (x , y)

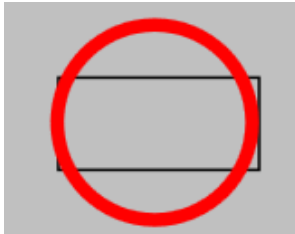
Note! The warning message displays the X and Y coordinates of the object in the E-Designer/Information Designer project.

This function does not exist in iX Developer and therefore the object is removed and replaced with an Ellipse to highlight the previous location. The Ellipse is connected to the correct tag and color dynamics.

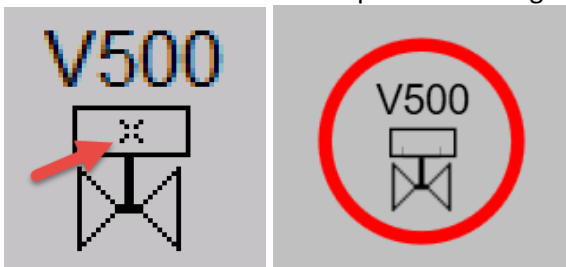
E-Designer/Information Designer



iX Developer



Below is an example of Analog Fill object being used to change color on a valve symbol. The conversion result in iX Developer is on the right side.



There are three ways of completing the conversion:

- Use the Ellipse, just scale it to the correct size.
The easiest and fastest but will not always give the best look.
- Use another object, e.g. rectangle, and copy the tag and dynamics from the Ellipse.
Will normally take longer time but look better.

- Use a **MultiPicture** object instead, this will normally take longer time but look better.

All Ellipses will have the same dynamics according to the colors in the Color Mapping, the only difference will be the connected tag. The color dynamic is connected to the Outline of the Ellipse. Because the color dynamic is the same for all Ellipse objects it can be a good idea to copy the same dynamics to a rectangle, if this is a more suitable shape for the objects. Only the connected tag will then have to be changed between the objects.

Bar graph object

The Bar graph object is converted to iX Developer but with several limitations, for an example:

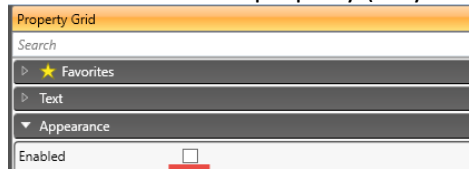
- No support for Min/Max Indicators.
- No support for Down/Left direction.
- Fewer properties can be controlled via dynamics.

Slide object

The Slide object is converted to iX Developer but it is important to be aware that the **Enable Operator Input** property is not converted. This means that the object might be disabled in E-Designer/Information Designer but after conversion it is enabled.

Possible workaround:

Disable the **Enabled** property (only available in the Property Grid).



Alarm Banner object

The Alarm Banner object is converted to an **AlarmViewer** in iX Developer. Due to differences in functionality it is necessary to carefully review and customize the **AlarmViewer** object to get similar functionality in iX Developer. The bulk of functionality can be achieved with iX Developer but needs manual configuration. Carefully review the original configuration of the **AlarmBanner** and then add/configure an **AlarmViewer** object to get as similar functionality as possible.

Trend object

See [Trends](#) for more information.

General warnings that needs review/attention

Most of the object related warnings are linked to dynamics that are not converted or converted differently compared to the original E-Designer/Information Designer functionality.

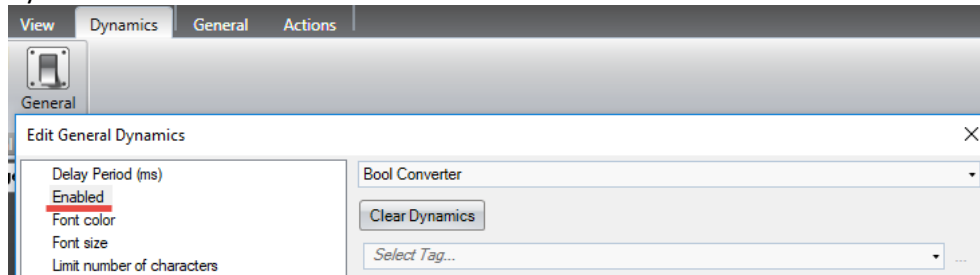
The following warnings/errors have been recognized as common:

Dynamic Enable operator input

The warning below is shown due to that the Enable operator input dynamic isn't converted to the iX Developer application:

Warning 1
[MainPage] Conversion discarded for the dynamic <Enable operator input> on <MainPage>, object <AnalogNumeric19>

This functionality can be added manually in iX Developer by configuring **General – Enabled** dynamics:



Dynamic Offset/Gain

Dynamic Offset/Gain is converted to iX Developer. The tags connected to objects with Dynamic Offset/Gain will get expressions that scales the value.

This functionality is converted to iX Developer but a warning according to below might be displayed:

Warning 1

[MainPage] Conversion discarded for the dynamic <Offset> on <MainPage>, object <AnalogNumeric2>, tag <Controller1_DynamicBackground> OffValue: 2, update tag expressions

Warning 1

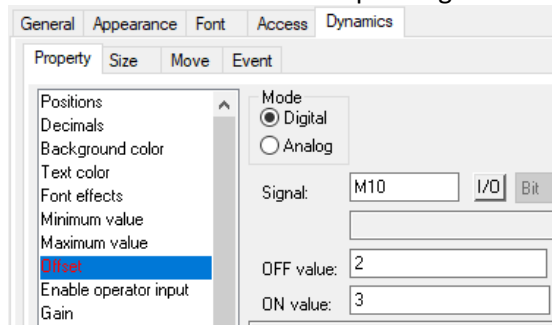
[MainPage] Conversion discarded for the dynamic <Offset> on <MainPage>, object <AnalogNumeric2>, tag <Controller1_DynamicBackground> OnValue: 3, update tag expressions

The following very important things needs to be considered:

- The expression needs to be updated to reflect the dynamic off/on values. A possible solution is to update the expression to include a “compact” IF-statement:
condition ? first_expression : second_expression;

Example from E-Designer/Information Designer

Offset will be either 2 or 3 depending on M10's value:



When converting this example to iX Developer a couple of warnings will be generated:

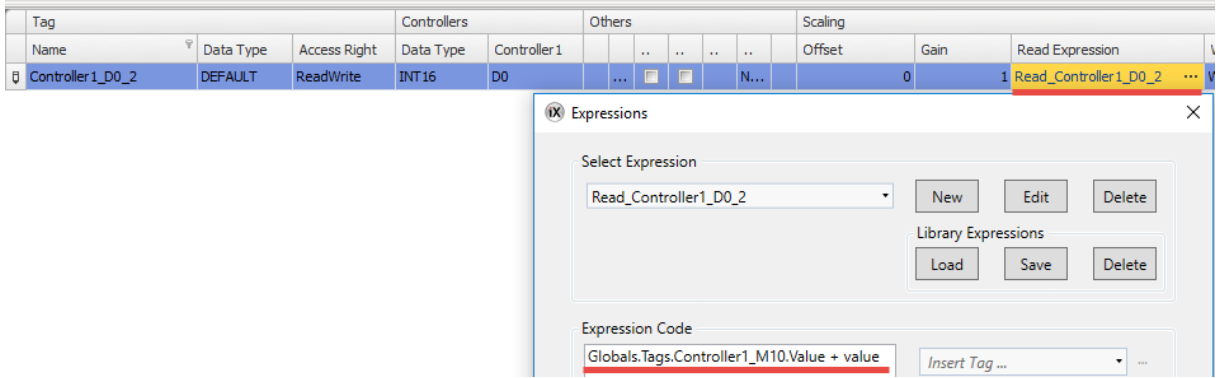
Warning 4

[MainPage] Conversion discarded for the dynamic <Offset> on <MainPage>, object <AnalogNumeric2>, tag <Controller1_D0> OffValue: 2, update tag expressions

Warning 5

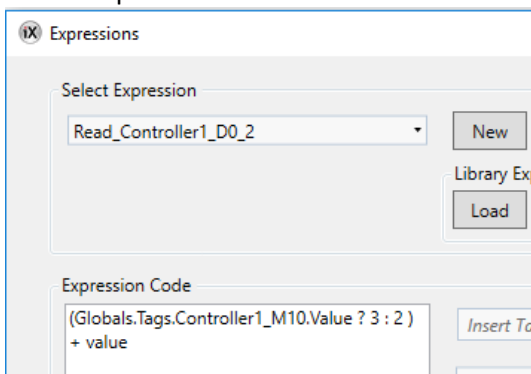
[MainPage] Conversion discarded for the dynamic <Offset> on <MainPage>, object <AnalogNumeric2>, tag <Controller1_D0> OnValue: 3, update tag expressions

The generated Read-expression will look like this:



The expression takes **no** considerations regarding the dynamic offset (in this case 2 or 3).

A possible workaround is to implement a “compact” IF-statement.
For example:



This means “IF Globals.Tags.Controller1_M10 is true THEN 3 ELSE 2”

NOTE! If another tag than the original tag (connected to the object) is used in the expression, the expression is not triggered on its value change.

Dynamic Size

This function is used to dynamically change size of an object. This is not converted and will generate a warning:

Error 1
[MainPage] No converter for element <SizeFunc>

The same functionality can be achieved by configuring **Size** dynamics in iX Developer:



Dynamic Move

This function is used to dynamically change size of an object. This is not converted and therefore needs to be added manually.

Error 1

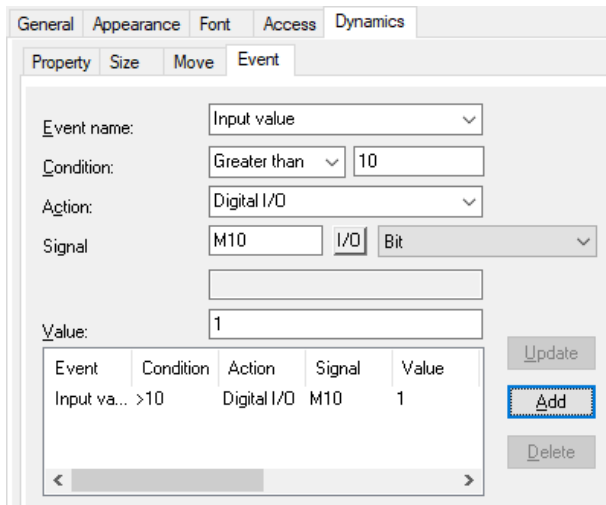
[MainPage] No converter for element <MoveFunc>

The same functionality can be added with **Move** dynamics in iX Developer:



Input Event

Event is a kind of action that is executed when certain input value conditions are fulfilled.

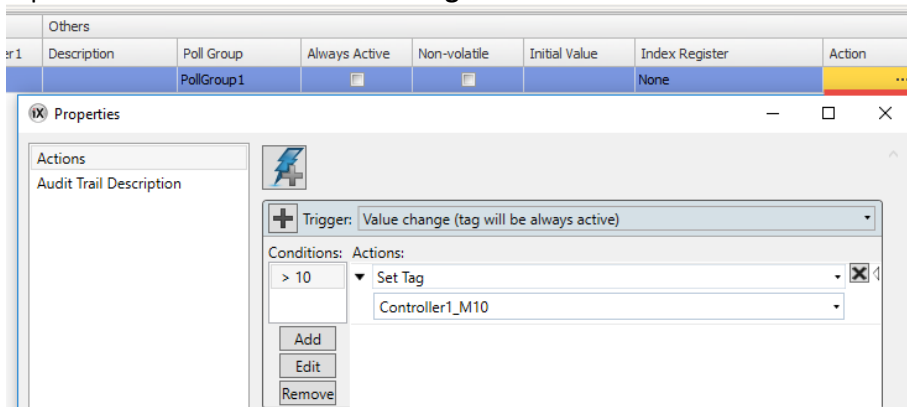


A warning will be displayed in the log file:

Error 1

[MainPage] No converter for element <Event>

A possible workaround is to add a **Tag-action** instead:



Note! Tag actions/conditions will be evaluated **each** time the tags value changes (**not only on input**)

Message Library - Failed to get value for key 'Text'

Warnings will be generated if a Message Library contain one or several empty texts. Each empty text seems to generate two warnings, similar to below:

Error 1
Failed to get value for key 'Text'

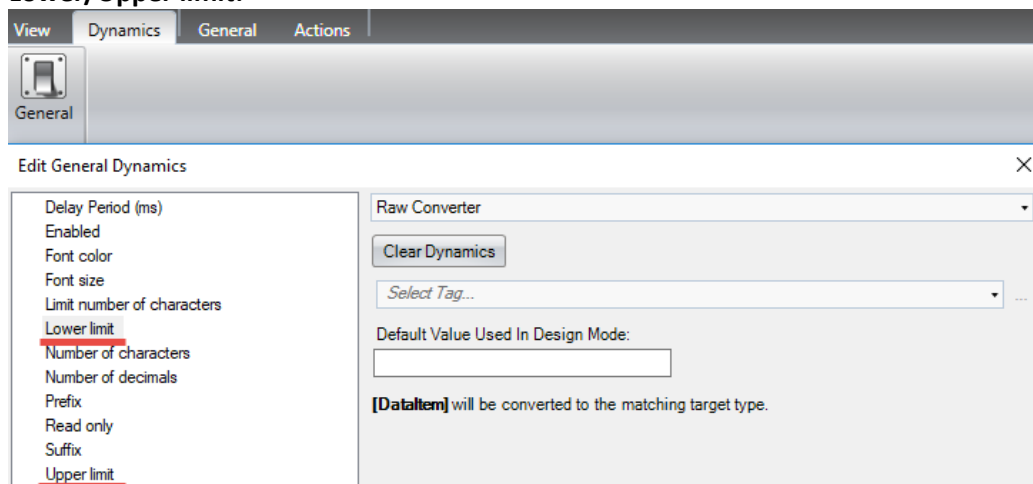
Verify that there are empty texts in the Message Library in the original E-Designer/Information Designer project. Verify that all texts/states have been converted and included in iX Developer's Text Library.

Dynamic Minimum/Maximum Value

The dynamic Minimum/Maximum value dynamics are not converted to iX Developer, a warning will be displayed in the log file:

Warning 1
[MainPage] Conversion discarded for the dynamic <Maximum value> on <MainPage>, object <AnalogNumeric19>

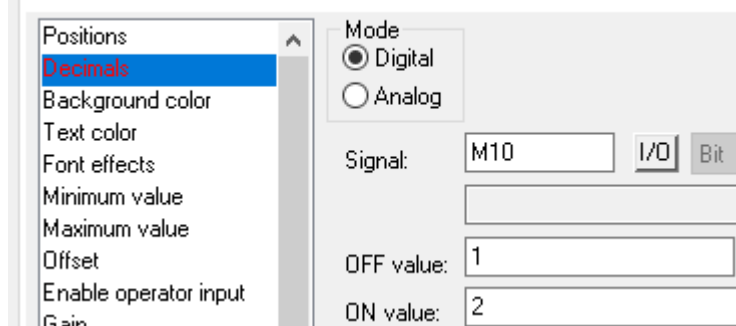
This functionality can be added to the iX Developer application by configuring **General – Lower/Upper limit:**



Dynamic Decimals

The conversion discards dynamic, **Decimals**, on digital evaluation (analog is converted OK).

Warning 1
[MainPage] Conversion discarded for the dynamic <Decimals> on <MainPage>, object <AnalogNumeric>



Note! The function in E-Designer/Information Designer is: If no OFF/ON values are given, the OFF value is set to 0 and the ON value to 1.

Do the following:

1. In iX Developer, select **Dynamics – Edit General Dynamics** and add **Number of decimals** (analog numeric object).

Dynamic Symbol (Button object)

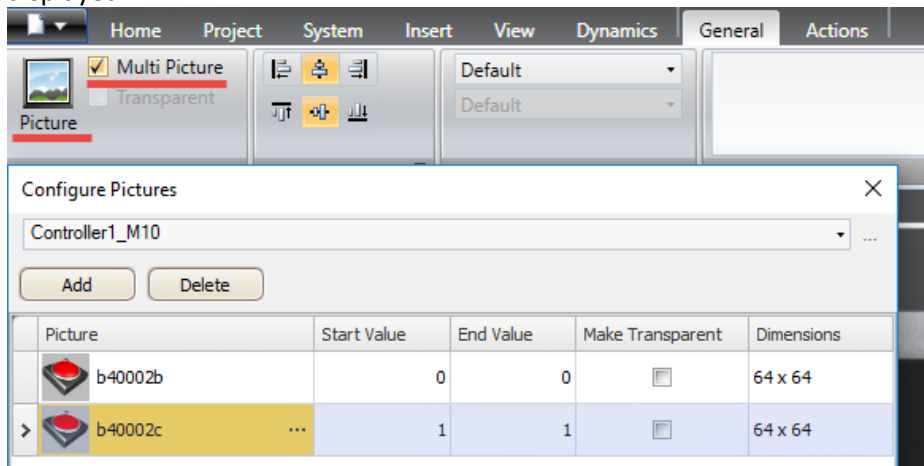
The dynamic **Symbol** property makes it possible to change which picture that is displayed in the button object. This function is currently not converted to iX Developer and will generate a warning:

Warning 1

[MainPage] Conversion discarded for the dynamic <Symbol> on <Man>, object <Button9>

To configure similar functionality in iX Developer, do the following:

1. Enable the **Multi Picture** property.
2. Click on the **Picture** button.
3. Select the tag that should control which picture that should be displayed.
4. Click on the **Add** button to add states and finally assign which pictures that should be displayed.



Dynamic Text

This function dynamically changes the text on an object. Depending on the type of object it is possible to have up to 5 rows in E-Designer/Information Designer. This function is discarded in the conversion and therefore needs to be configured manually afterwards.

Warning 1

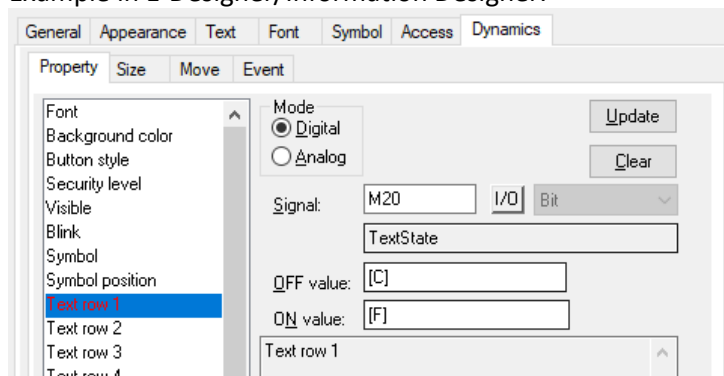
[MainPage] Conversion discarded for the dynamic <Text row 0> on <MainPage>, object <Button>

There are two different ways to implement similar functionality in iX Developer:

Digital Mode

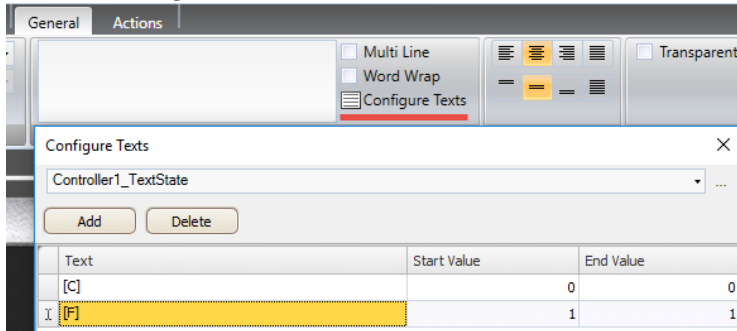
For the same functionality it is possible to use **Configure Texts** in iX Developer.

Example in E-Designer/Information Designer:



Do the following:

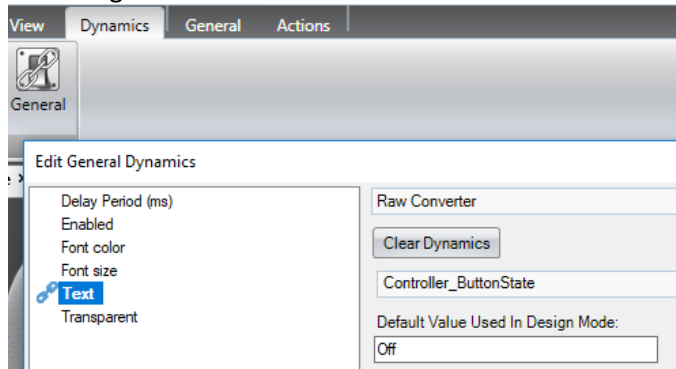
1. Copy the address/tag and properties from E-Designer/Information Designer.
2. Click on **Configure Texts** and add the texts/states:



An alternative solution is to use a Text Library. There is a big advantage to use this type of function if the texts need to be reused in many places/objects (easier to maintain/extend).

Analog Mode

It is possible to read a string value from a tag and present it in the object by assigning **Text** dynamics and using the **Raw Converter**



Dynamic Security Level

The dynamic Security Level dynamics is not converted to iX Developer, a warning will be displayed in the log file:

Warning 1

[MainPage] Conversion discarded for the dynamic <Security level> on <MainPage>, object <AnalogNumeric19>

Due to big differences in the security functionality (password levels in E-Designer/Information Designer and users/passwords in iX Developer) this dynamic signal is not possible to implement in an easy way. The developer will need to review the use cases that was solved in E-Designer/Information Designer and consider using iX Developer's standard functionality to solve them instead. See the iX Developer's reference manual for more information regarding the Security functionality.

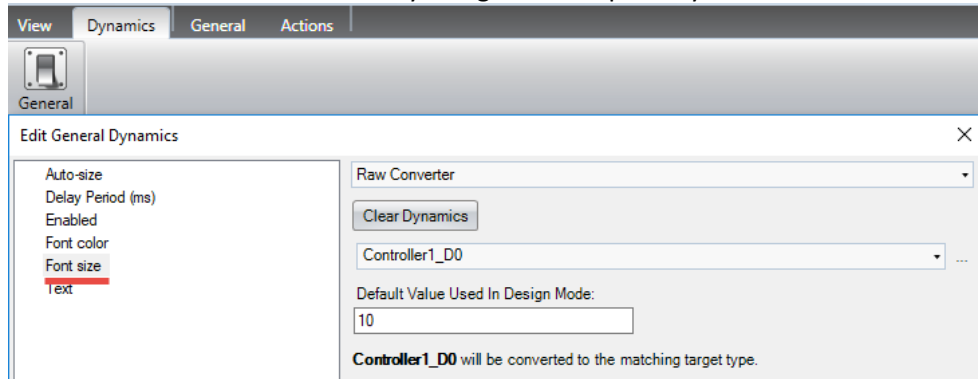
Dynamic Font

E-Designer/Information Designer includes a function that allows the developer to dynamically control which font that is used for a certain object. This functionality is not converted to iX Developer.

Warning 1

[MainPage] Conversion discarded for the dynamic on <MainPage>, object <Text6>

A similar result can be obtained by using iX Developer's dynamic **Font Size**:



Dynamic Library No

E-Designer/Information Designer includes a function that allows the developer to dynamically control which Message Library that should be presented in the Message Object.

Warning 1

[MainPage] Conversion discarded for the dynamic <Library no.> on <MainPage>, object <Text7>

This functionality is not available in iX Developer. It might be possible to implement by using a fairly advanced C#-script.

Conflict between dynamic Border style and Visibility dynamics

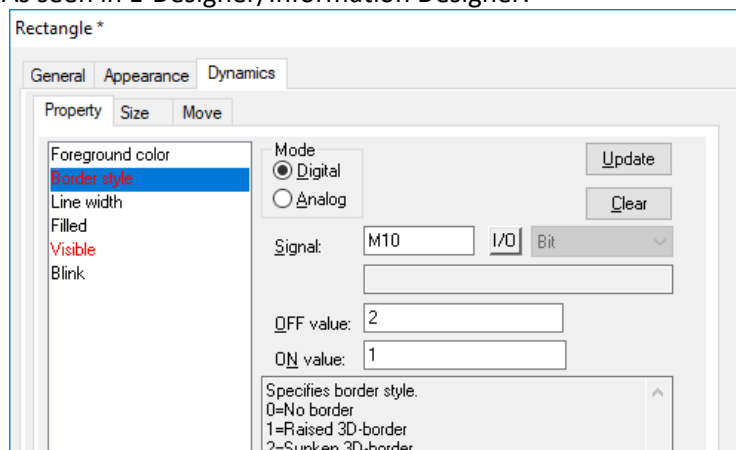
The feature to dynamically change the border style is not available in iX Developer. The conversion tool normally adds a new object, with other style (e.g. bevel), and visibility dynamics is used to change appearance for the user.

This message will appear when the object is using dynamics on both border style and visibility. The border style conversion will then be discarded and only the visibility dynamics is converted.

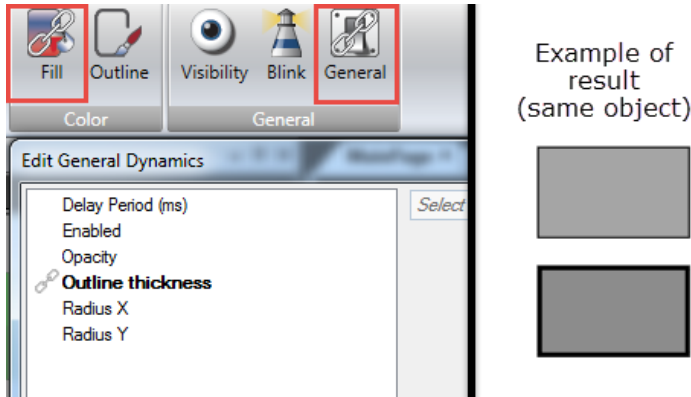
Warning 1

[MainPage] Conversion discarded for the dynamic <Border style>, object <Rectangle4> due to conflicting <Visibility>

As seen in E-Designer/Information Designer:



One solution to this problem would be to change the color and/or the outline thickness of the rectangle object instead of changing the border style. Use E-Designer/Information Designer to locate the address name (tag) and use the tag to dynamically change the color and/or the outline thickness.



Failed to convert value for key 'OffValue' to int

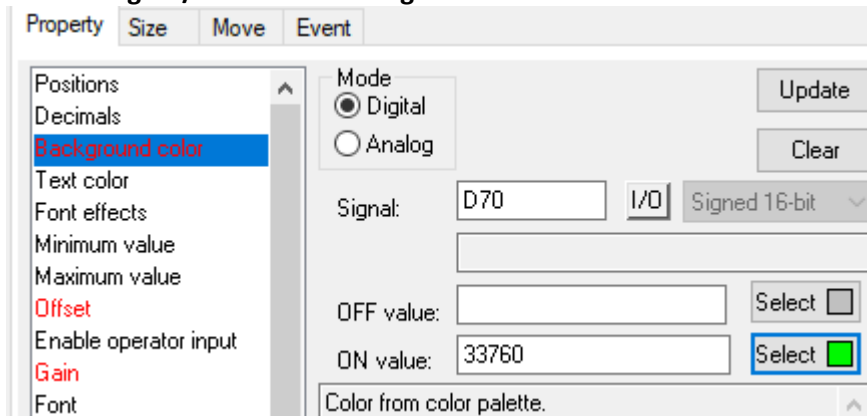
This error is shown when a dynamic value property (OFF value) is missing in the E-Designer/Information Designer project.

Warning 1

[MainPage] Failed to convert value for key 'OffValue' to int

This is a configuration error in the E-Designer/Information Designer project and should be addressed by the developer.

Example in E-Designer/Information Designer:



Note! The missing color will be converted to black color

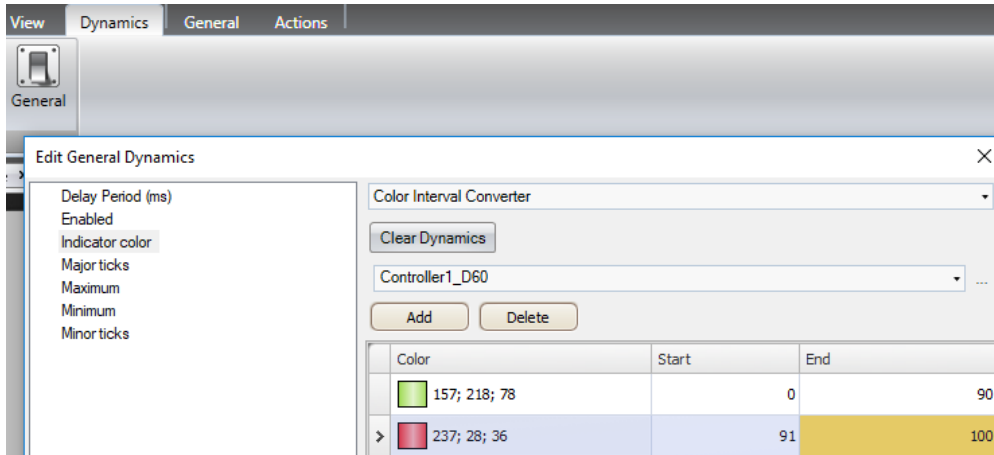
Dynamic Fill Color (Bar graph object)

The Bar Graph object's fill color is often controlled via dynamics. This dynamic is not converted to iX Developer and will generate a warning:

Warning 1

[MainPage] Conversion discarded for the dynamic <FILLCOL> on <test>, object <LinearMeter>Dynamic>

A similar result can be obtained by using iX Developer's dynamic **Indicator color** dynamic:



Dynamic Minimum/Maximum Value – Bar graph/Scale objects

This function dynamically limits the minimum/maximum value for Bar graph and Scale objects in E-Designer/Information. The Bar graph object is converted to a Linear Meter and the Scale object is converted to a Slider object in iX Developer.

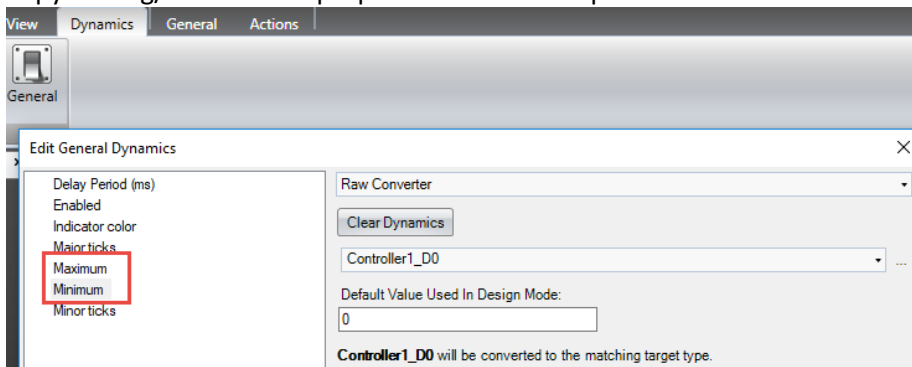
Warning 1

[MainPage] Conversion discarded for the dynamic <Minimal value> on <MainPage>, object <Slider11>

Warning 1

MainPage] Conversion discarded for the dynamic <Maximum value> on <MainPage>, object <Slider11>

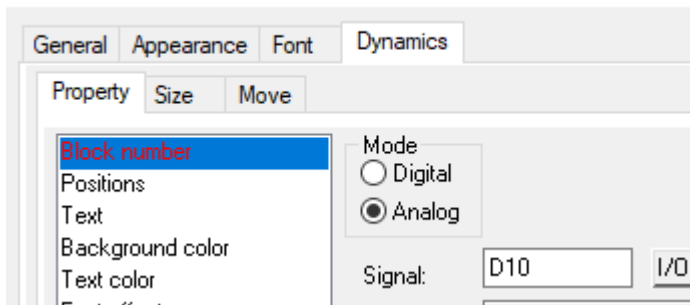
The same functionality can be achieved by configuring dynamic Minimum/Maximum on the Linear Meter and Slider objects. Locate the Bar Graph/Slide object in E-Designer/Information Designer to copy the tag/address and properties to iX Developer:



Dynamic Block number (Jump to Block object)

The **Jump To Block** object is used to navigate between different blocks in the E-Designer/Information Designer project. The dynamic **Block number** makes it possible to dynamically control which block that the object should navigate to.

Jump to Block



This is not a standard feature in iX Developer. It is possible to create similar functionality by implementing C#-scripts. For example, a function that receives an index. Based on the index value different screens will be displayed.

Screens

Converted screens

Review the converted screens in the iX Developer application. If needed, manually modify the size, placement and fonts of objects.

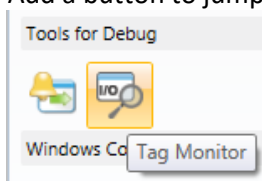
Note! Texts may appear cut in iX Developer and simulation, this is usually not the case for the operator panel. Always review the result in the operator panel before making any adjustments in iX Developer.

System monitor screen

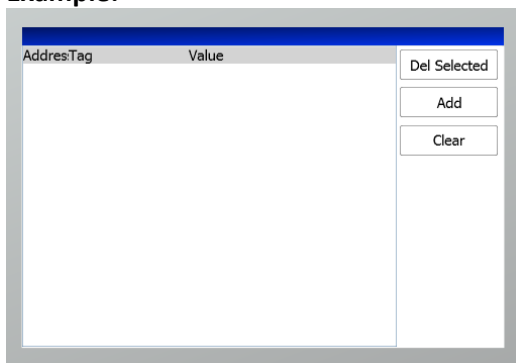
This function is normally not used but can be good to have. The conversion creates a screen in iX Developer called **System_Monitor**. A similar *Tag Monitor* object can be used instead.

Do the following:

1. Open the **System_Monitor** screen in iX Developer.
2. Delete all objects.
3. Change property of the screen to popup. Uncheck *Modal* option.
4. Add the **Tag Monitor** object covering the popup.
5. Add a button to jump to this screen.



Example:



Alarms Screen

The Alarm Block/screen (990) normally needs some manual adaptations to fulfill the original requirements. It is important to check:

- Are the correct columns displayed?
- Do the columns have correct size?
- In operator panel applications with lower resolutions it is better to replace the built-in buttons with normal iX buttons (configured with the related alarm actions). It is then normally possible to get a more compact footprint.

Text Blocks

Text blocks can only be viewed in E1012/K10, E1022/K20 and E1032/K30. For the larger panels the text blocks are mainly used to generate report printouts or e-mails.

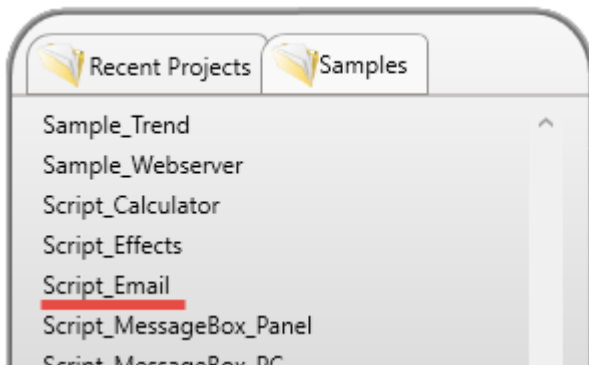
Text blocks are not converted to iX Developer and will therefore generate an Error in the conversion log:

Error 1

No converter for element <TextBlock>

iX Developer includes support for report generation. It requires the developer to create an excel template, that can contain both historical data and tag data. The report can either be saved to file or printed. For more details, see the Start Up document, [Report Generator in iX Developer](#).

Using script, it is possible to attach a file to an e-mail. see the **Script_Email**-application in iX Developer for an E-mail script sample:



Text Block used for viewing

The only workaround is to manually recreate the Text Blocks as graphical screens in iX Developer.

Action Related Warnings

Not all actions are converted to iX Developer, below is a list with unconverted actions and (if available) possible workarounds:

Discarded object/tag related actions

In E-Designer/Information Designer the Grouped action means that all signals, except the one activated, belonging to a touch key with the relevant group number are reset

Warning 1

[MainPage] Could not resolve button event type : Grouped

Possible workaround:

- Configure multiple actions to set/reset desired tags

Function key related actions:

E-Designer/Information Designer supports a couple of actions allowing function keys to execute actions on the currently selected object (kind of “global”/reusable function key actions):

These actions are not converted to iX Developer, warnings will be added to the log file:

- Warning 1**
[MainPage] Could not resolve key action type: Set
- Warning 1**
[MainPage] Could not resolve key action type: Increment
- Warning 1**
[MainPage] Could not resolve key action type: Decrement
- Warning 1**
[MainPage] Could not resolve key action type: Momentary

Possible workarounds:

- Add **separate** actions for each tag in the function keys configuration.

Discarded Recipe actions

Recipes are not converted to iX Developer – this also means that none of the recipe related actions are converted, see the generated warnings below:

- Warning 1**
[MainPage] Could not resolve button action type : RecRead
- Warning 1**
[MainPage] Could not resolve button action type : RecWrite
- Warning 1**
[MainPage] Could not resolve button action type : RecDelete
- Warning 1**
[MainPage] Could not resolve button action type : RecAppend
- Warning 1**
[MainPage] Could not resolve button action type : RecToCard
- Warning 1**
[MainPage] Could not resolve button action type : RecFromCard
- Warning 1**
[MainPage] Could not resolve button action type : RecDeleteCard
- Warning 1**
[MainPage] Could not resolve button action type : RecCD
- Warning 1**
[MainPage] Could not resolve button action type : RecMD
- Warning 1**
[MainPage] Could not resolve button action type : RecDD

Workaround is to configure the recipes from scratch, for more information see chapter [Recipe](#).

Discarded Project actions

E-Designer/Information Designer contains functions that allows the operator to load, save and delete applications to/from a memory card. These actions are not converted to iX Developer and will therefore generate warnings in the log file:

Warning 1

[MainPage] Could not resolve button action type : ProjToCard

Warning 1

[MainPage] Could not resolve button action type : ProjFromCard

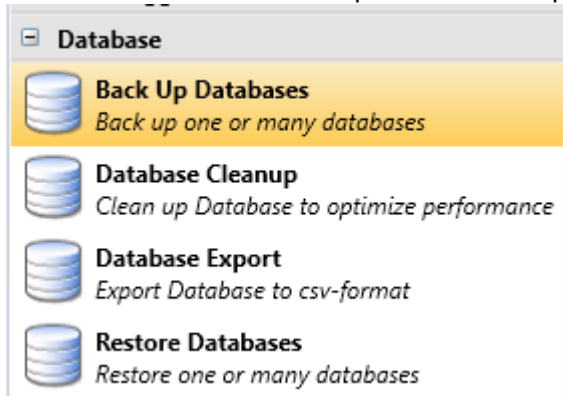
Warning 1

[MainPage] Could not resolve button action type : ProjDeleteCard

Workaround

In E-Designer/Information Designer it is possible to copy the complete project from/to memory in runtime. This is handled differently in iX Developer. To make a complete project backup you must go through the **Service Menu**, which requires panel reboot. For more information see separate [X2 image manual](#).

It is possible to make database backup from iX Developer through actions.



Discarded Alarm actions

Acknowledge alarm, **Jump to info block connected to the alarm** and **Shows object info** actions are not converted to iX Developer. Most of the functionality are included in the **AlarmViever** object (except **Show object info**):

Warning 1

[MainPage] Could not resolve button action type : AlarmAck

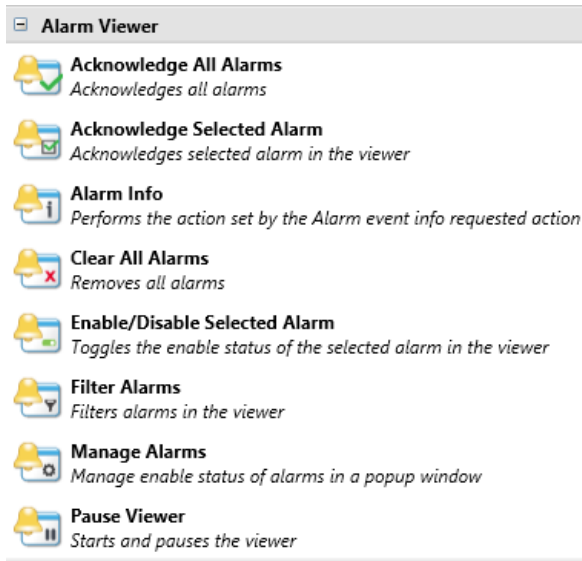
Warning 1

[MainPage] Could not resolve button action type : AlarmInfo

Warning 1

[MainPage] Could not resolve button action type : Info

Another possible work-around is to add separate button objects and connect them to alarm related actions:



The **Saves alarm list to memory card** can be replaced with a standard database to csv backup action in iX Developer.

Warning 1

[MainPage] Could not resolve button action type : AlmToCard

Discarded Miscellaneous actions

Enter

The **Enter** (Corresponds to pressing the Enter key) action is not converted and not applicable for iX Developer.

Warning 1

[MainPage] Could not resolve button action type : Enter

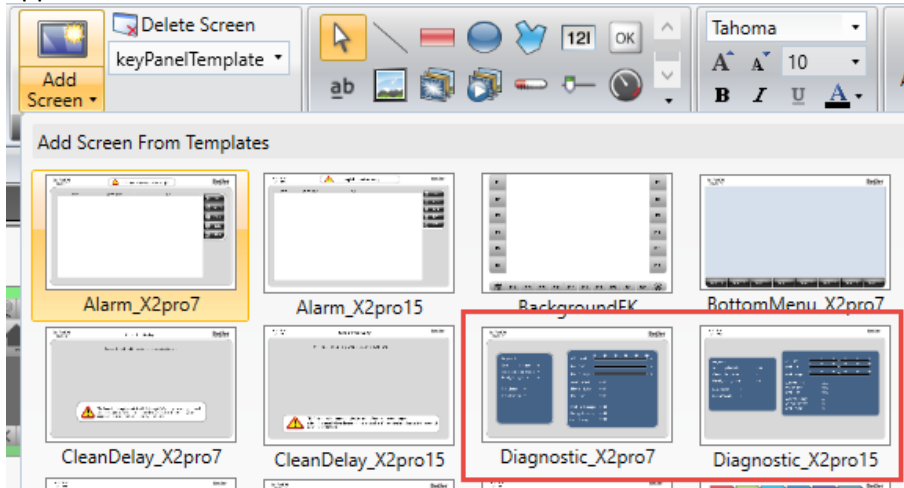
Show diagnostic page

The **Show diagnostic page** is not converted to iX Developer:

Warning 1

[MainPage] Could not resolve button action type : Diag

A possible workaround is to import one of the Diagnostic template screens to the iX Developer application instead:



TCP/IP Connect/Disconnect

Initiates/disconnects serial TCP/IP connection (PPP). This functionality is not supported by iX Developer.

Warning 1

[MainPage] Could not resolve button action type : Connect

Warning 1

[MainPage] Could not resolve button action type : Disconnect

A possible workaround is to use a 4G router. The operator panel can then get internet access – allowing it to send e-mails, SMS and provide remote access to VNC-server, FTP-server etc.



Test and verify converted application

After conversion all functionality must be fully tested in the same way as when creating a project from start, i.e. all screens, all buttons, IO testing and so on to make sure that the conversion have not changed the behaviour of the application.

Limitations

- When converting key panel projects, the maximum blinking speed of the simulated LED is limited to 400ms (2.5 Hz) when targeting operator panels.
- When targeting the PC platform, the maximum blinking speed matches the maximum supported by Information Designer of 200 Ms (5 Hz).
- Addresses over M4096 or D4096 are non-volatile in E-Designer/Information Designer, which is simply configured by checking Non-volatile, in the Tag editor, in iX Developer.
- Line objects can become misaligned or crooked.
Although the lines in E-Designer appears to be straight the coordinates are not always aligned. Because iX Developer converts the coordinates, the appearance might change. Must be corrected manually.
- Index registers are not supported for internal variables.
- Fixed bitmap fonts are converted to **Courier New** font. Manual work might be needed to trim/adjust the font size to fit special applications/use cases.
Note! Texts may appear cut in iX Developer and simulation, this is usually not the case for the operator panel. Always review the result in the operator panel before making any adjustments in iX Developer.
- Macros are converted to Multiple Actions in iX Developer. However, it will only convert to actions supported by iX Developer.

Appendix 1 E-Designer/Information drivers not available in iX Developer

Communication Drivers		 iX Developer	 Information Designer/E Designer
ABB	ABB Modbus AC500	<input type="radio"/>	<input checked="" type="radio"/>
Baumuller	Baumuller bmaxxOS	<input type="radio"/>	<input checked="" type="radio"/>
Beckhoff	Beckhoff Modbus	<input type="radio"/>	<input checked="" type="radio"/>
J1939	J1939 EM	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Cognex	Cognex DVT	<input type="radio"/>	<input checked="" type="radio"/>
CIMON	CIMON	<input type="radio"/>	<input checked="" type="radio"/>
Danfoss	VLT FC Drive	<input type="radio"/>	<input checked="" type="radio"/>
Delta	Delta DVP	<input type="radio"/>	<input checked="" type="radio"/>
ELMO	Elmo Maestro	<input type="radio"/>	<input checked="" type="radio"/>
FESTO/BECK	FESTO/BECK FST CI	<input type="radio"/>	<input checked="" type="radio"/>
	FESTO/BECK FST CI Ethernet	<input type="radio"/>	<input checked="" type="radio"/>
Generic CAN open	Generic CAN Open	<input type="radio"/>	<input checked="" type="radio"/>
Generic Profibus	Generic Profibus driver	<input checked="" type="radio"/>	<input checked="" type="radio"/>
IAI	RoboCylinder	<input type="radio"/>	<input checked="" type="radio"/>
Idec	IDEC FA 1:1	<input type="radio"/>	<input checked="" type="radio"/>
	IDEC FA 1:1 (expanded)	<input type="radio"/>	<input checked="" type="radio"/>
LIYAN Electric	LIYAN EX	<input type="radio"/>	<input checked="" type="radio"/>
Modbus	Modbus Master RTU/ASCII IEC	<input type="radio"/>	<input checked="" type="radio"/>
Moeller	Moeller PS4 series (SUCOM-A)	<input type="radio"/>	<input checked="" type="radio"/>
Parker	GeParker6K	<input type="radio"/>	<input checked="" type="radio"/>
SEW	MovLink/SMLP	<input type="radio"/>	<input checked="" type="radio"/>
SIEMENS	SIMATIC S5 3964R	<input checked="" type="radio"/>	<input checked="" type="radio"/>
	SIMATIC S7 MPI (EM)	<input checked="" type="radio"/>	<input checked="" type="radio"/>
	SIMATIC S7 3964R	<input type="radio"/>	<input checked="" type="radio"/>
	SIMATIC S7 Profibus DP	<input type="radio"/>	<input checked="" type="radio"/>
Toshiba	Computer Link	<input type="radio"/>	<input checked="" type="radio"/>
Yaskawa	Yaskawa FSP	<input type="radio"/>	<input checked="" type="radio"/>
	SMC series	<input type="radio"/>	<input checked="" type="radio"/>
YET	YET XtraDrive	<input type="radio"/>	<input checked="" type="radio"/>

Appendix 2 Migration table

For information see, [Migration from EXTER/E1000 to X2 series](#)

For information see, [Migration from E series/Cimrex to X2 series](#)

Appendix 3 Adaptor plates

For information see, [Adaptor plates Exter/E1000 to X2](#)

For information see, [Adaptor plates Cimrex/E-series to X2](#)

Appendix 4 Cables and connectors

The EXTER/E1000 series and X2 series offer different cabling for the RS232 and RS422/RS485 connectors.

EXTER/E1000

RS232 - 9 pin D-Sub male

RS422/RS485 - 25 pin D-Sub female

X2 series

RS232 - 9 pin D-Sub female

Use CAB108 adapter for existing EXTER/E1000 cables (part number 660000133)

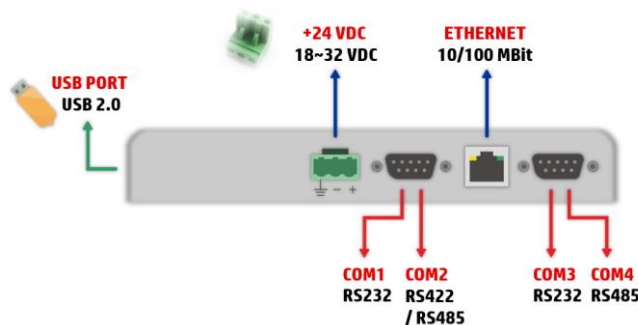
RS422/RS485 - 9 pin D-Sub female

Use CAB107/0,2m 9 pin D-Sub to 25 pin D-Sub, for using EXTER 422/485 cables on X2 (part number 660000131)

X2 Pro has no RS422 port with RTS / CTS signals. Which is required to handle some PLC systems. Therefore, use the COM1 for RS232 that has RTS / CTS support and a RS232 To RS422 converter.

X2 base

Pin	Serial port, 9-pin female		Serial port, 9-pin female	
	COM1	COM2	COM3	COM4
1	-	RS422 Tx+ RS485 Tx+/Rx+	-	RS485 Tx+/Rx+
2	RS232 RxD	-	RS232 RxD	-
3	RS232 TxD	-	RS232 TxD	-
4	-	RS422 Rx+	-	-
5	GND	GND	GND	GND
6	-	RS422 Tx+ RS485 Tx-/Rx-	-	RS485 Tx-/Rx-
7	RS232 RTS	-	-	-
8	RS232 CTS	-	-	-
9	-	RS422 Rx-	-	-

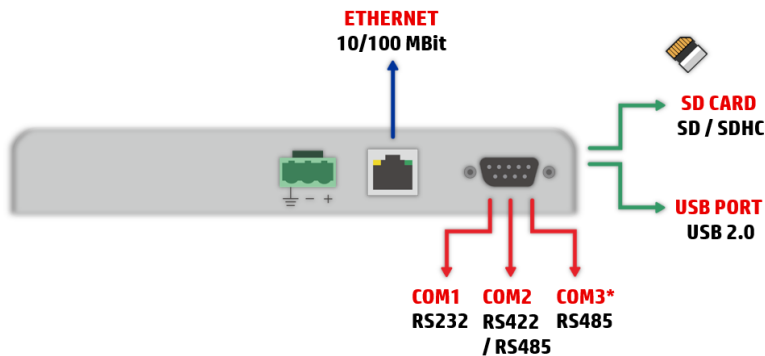


X2 pro, X2 extreme and X2 marine

X2 Pro has no RS422 port with RTS / CTS signals. Which is required to handle some PLC systems. Therefore, use the COM1 for RS232 that has RTS / CTS support and a RS232 To RS422 converter.

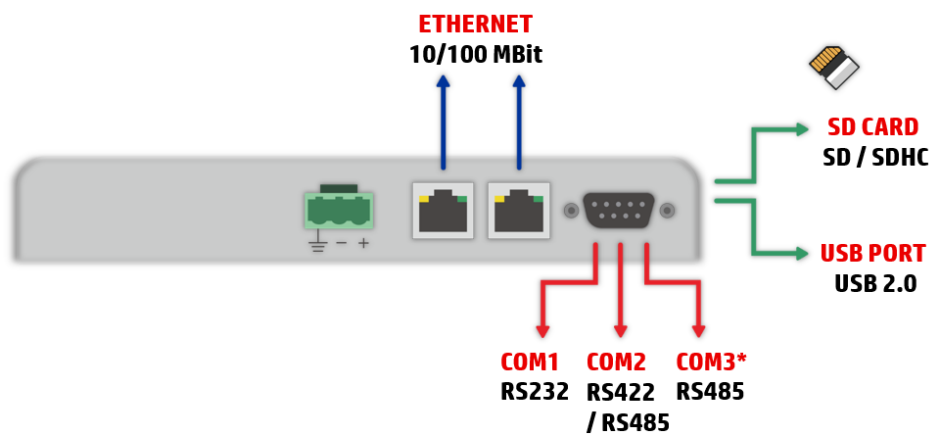
Pin	Serial port, 9-pin female		
	COM1	COM2	COM3
1	-	RS422 Tx+ RS485 Tx+/Rx+	-
2	RS232 RxD	-	-
3	RS232 TxD	-	-
4	-	RS422 Rx+	RS485 Tx+/Rx+
5	GND	GND	GND
6	-	RS422 Tx+ RS485 Tx-/Rx-	-
7	RS232 RTS	-	-
8	RS232 CTS	-	-
9	-	RS422 Rx-	RS485 Tx-/Rx-

X2 pro 4 / 7 – X2 marine 7



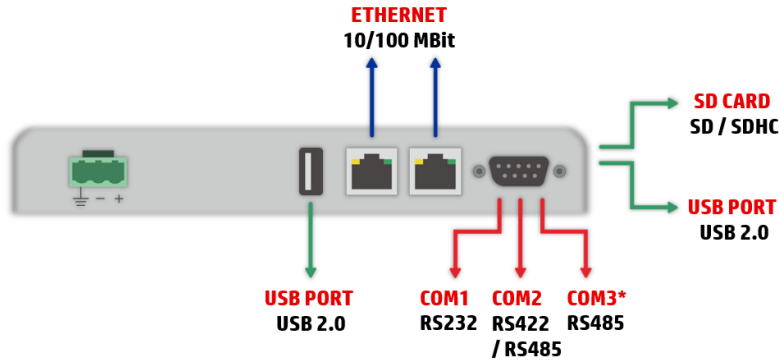
**COM3 can only be used if COM2 is RS485*

X2 pro 7 2E



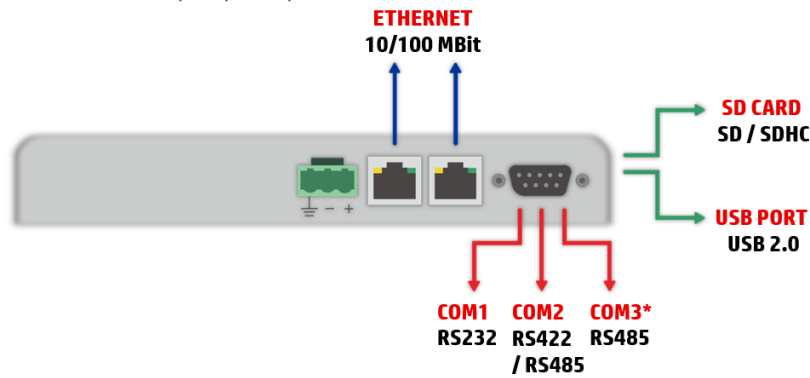
**COM3 can only be used if COM2 is RS485*

X2 pro 10 / 12 / 15 / 21 – X2 marine 15 / 15 SC



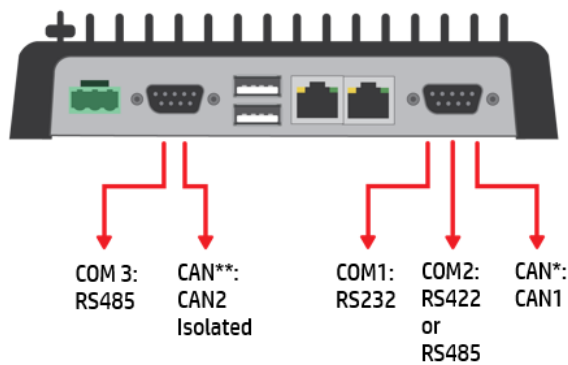
**COM3 can only be used if COM2 is RS485*

X2 control 4 / 7 / 12 / 15 - X2 marine 7 SC



**COM3 can only be used if COM2 is RS485*

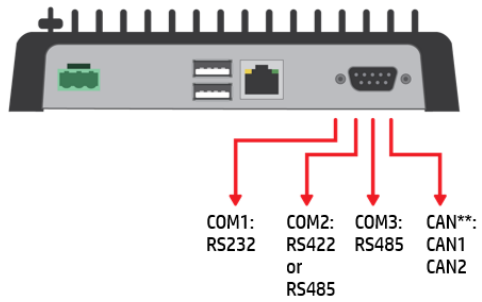
X2 extreme x HP / HC



**CAN1 can only be used if COM2 is not used*

**CAN2 can only be used if COM3 is not used*

X2 extreme x



**COM3 can only be used if COM2 is RS485*

**CAN1 can only be used if COM2 is not used*

**CAN2 can only be used if COM3 is not used*

For information see, [X2 cables](#).