

Navigation Bar

Mini-Lab

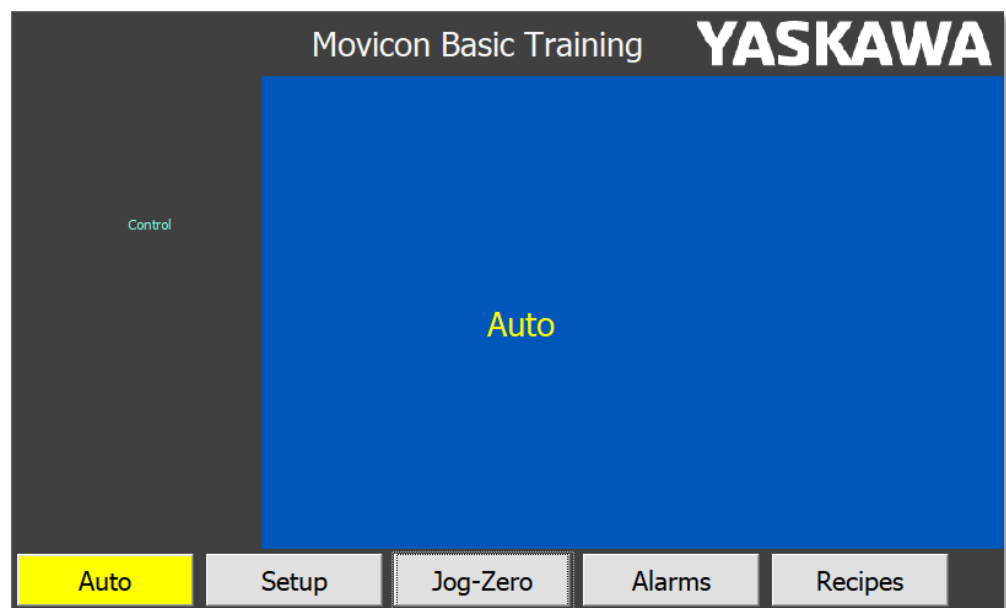
Requirements

- All main screens exist in HMI project

Lab Overview

This lab document will guide the participant through the following steps:

- I. Complete one Navigation button for duplication (5 min)
- II. Change button color to indicate active screen (15 min)



Lab Goal

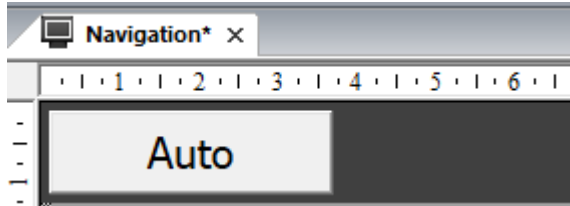
- HMI can switch between screens
- Button color indicates active screen

I. Complete one Navigation button for duplication

A. Open the Navigation screen

B. Insert Push Button

1. Recommend to use a “normal” push button so that the background color can change to indicate active screen

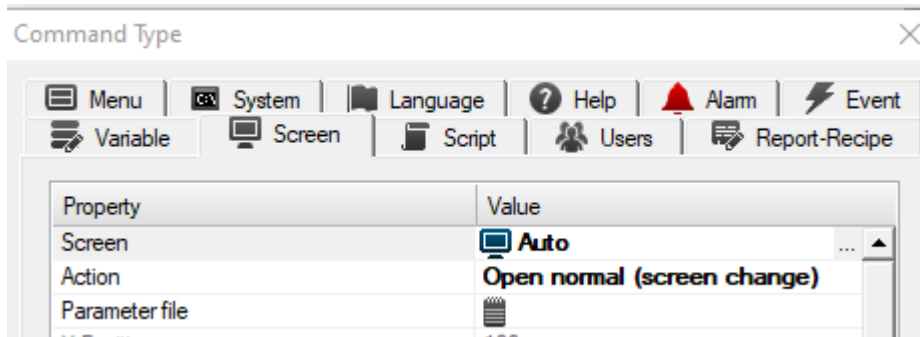


2. Adjust height, style, Object title, Font , stroke, etc. as desired

3. Set Button properties to open Screen

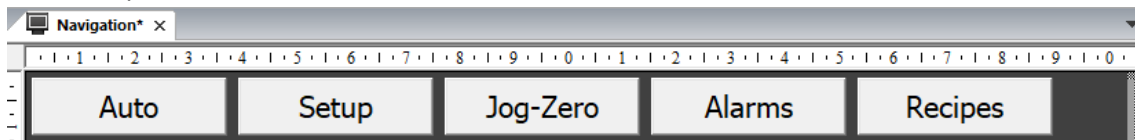
i. Execution: Command Type = Execute Commands → New Command

a. Commands on release = Screen (tab) and select desired screen



4. Copy/paste the button, and adjusting both the command and text for each main screen

- i. Auto
- ii. Setup
- iii. Jog-Zero
- iv. Alarms
- v. Recipes



5. Verify functionality in runtime simulator

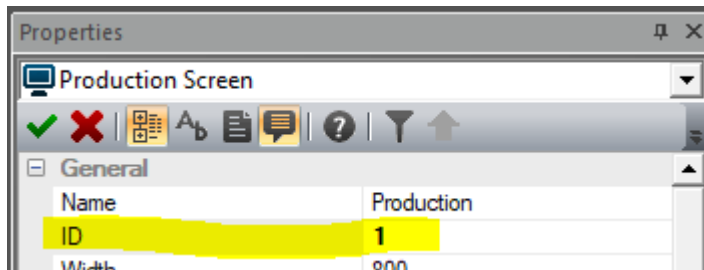


II. Change button color to indicate active screen

*Each screen is given an ID number and **_SysVar_** reports the active screen*

Create an expression for background color in each navigation button

B. Enter an ID number for each main screen in Project Explorer → Screens



1. Select the screen → Properties → General → ID

2. 1= Auto screen

3. 2= Setup screen

4. 3= Jog-Zero screen

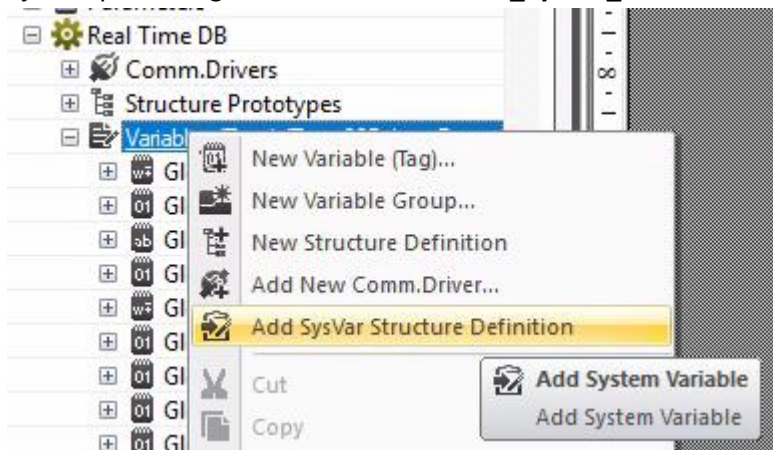
5. 4= Alarms screen

6. 5= Recipes screen

C. Create the **_SysVar_** in Real Time DB → Variables

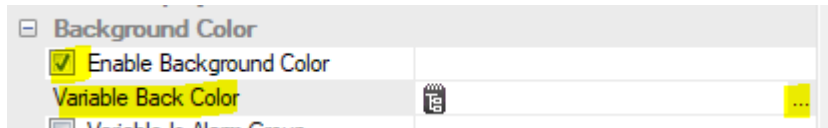
***_SysVar_** contains information about the HMI such as the number of the active screen*

1. Project Explorer: Right click Variables → Add **_SysVar_** Structure Definition

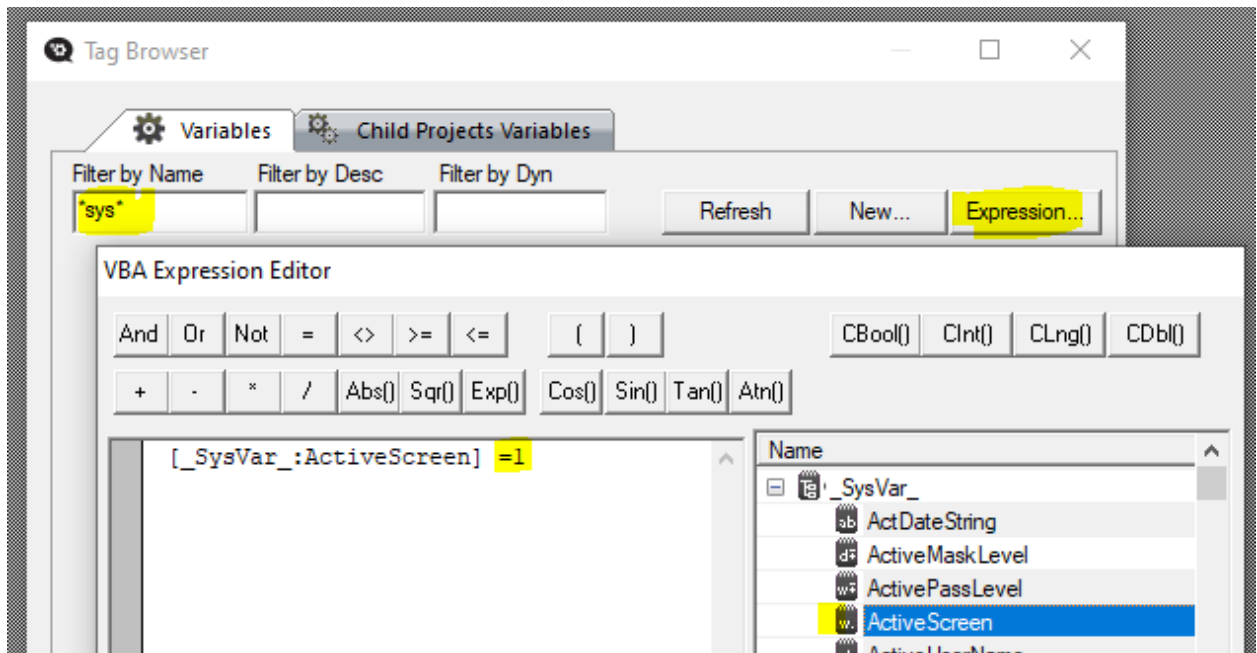


D. Set the logical condition and color for each navigation button

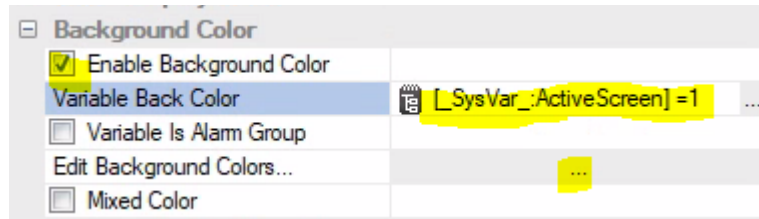
1. Properties → Dynamics → Background Color
2. Enable Background Color



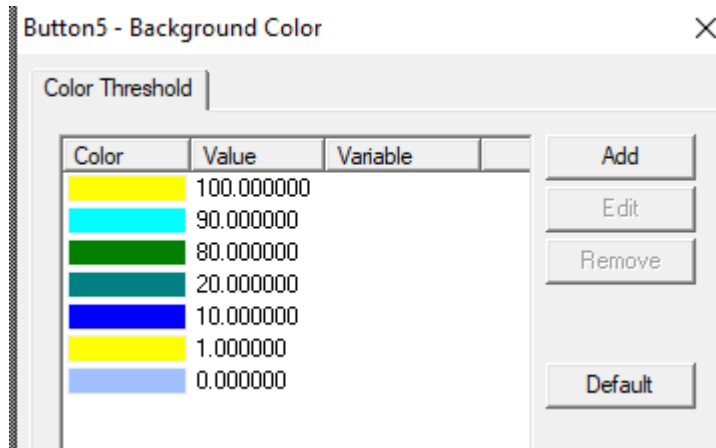
3. Variable Back Color → “...” to open tag browser
 - i. In Tag Browser, set filter to show _SysVar_
 - ii. Open Expression (button)
 - iii. Expand _SysVar_ to find ActiveScreen.
 - a. Double click to enter the structure element.
 - b. This process uses the appropriate spelling and syntax [_SysVar_:ActiveScreen]
 - iv. Build the expression as shown
 - v. The expression will evaluate as 1 (true) or 0 (false)



4. Edit Background Colors



- Adjust the colors desired when the expression evaluates as a value of 1 (true) and 0 (false)
- The other values can be removed or left alone. (The expression will never evaluate to these values and so the colors will not be used)



5. Repeat for other buttons

- TIPS to save time
 - Copy, paste, edit the expressions
 - Ctrl-select to apply properties to multiple buttons

E. Verify functionality and correct any problems

End Of Mini-Lab

Troubleshooting Tips

- ☐ Confirm each button has a unique screen command (Properties→Execution→Commands On Release)
- ☐ Confirm each button has a unique expression (Properties→Dynamics→Background Color →Variable Back Color)
- ☐ Confirm each main screen has a number assigned (Properties→General→ID)

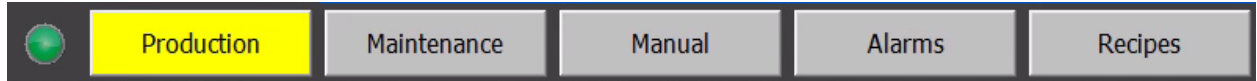
Certification Checklist

- ☐ Buttons navigate to each of the 5 main screens
- ☐ Button changes color to indicate active screen

III. Optional Exploration – Work on any of the following in any order

A. Add an indicator for CommDriverStatus

*The system sets **_SysVar_:CommDriverStatus** to TRUE when a variable (tag) communication to the MPiec controller fails. At this point in development, the HMI is not communicating any variables because no objects with variables exist on any of the screens. In other words, the lamp will not function at this point.*

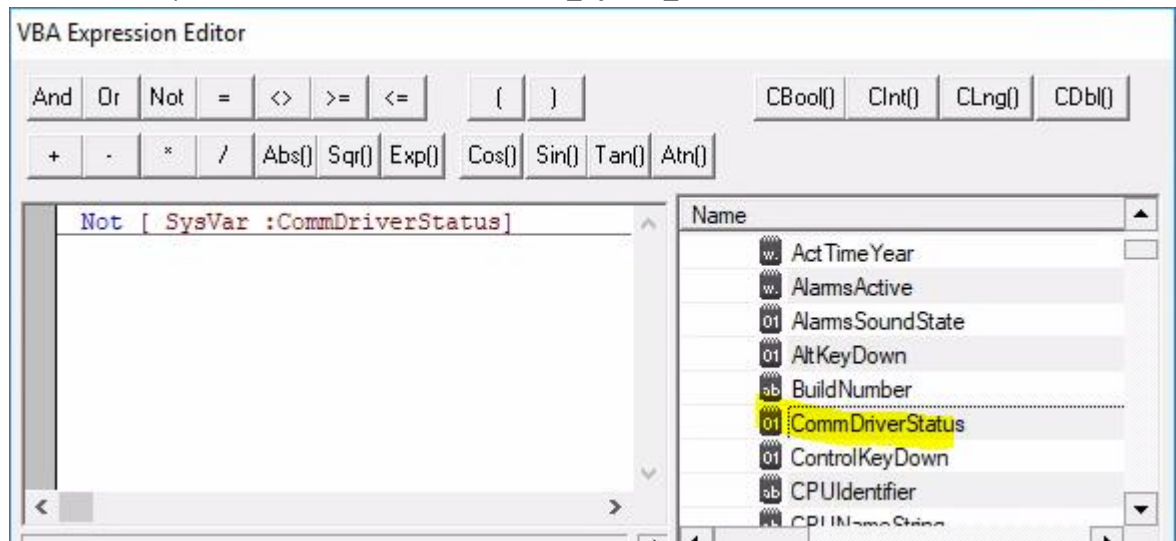


1. Insert a light or LED
 - i. Toolbox→Lights-Leds
 - ii. Resize and adjust layout

2. Set Properties

*The system variable **_SysVar_:CommDriverStatus** is true when when a variable (tag) communication to the MPiec controller fails. Invert this with the NOT instruction so that the control illuminates when comms have succeeded.*

- i. Execution→Command/State Variable → “...” → Expression
- ii. Build expression as shown with NOT and **_SysVar_:CommDriverStatus**



B. Use the styled buttons for navigation

1. Instead of changing the background color, set the command/state variable to the expression such as `[_sysvar_:activescreen]=1` to change button illumination based on active screen