

Platform MX6

Software option S502

Display Rotation

1 Identification

Identification	
Option ID	S502
Order number	S-05000603-0000
Short name	Display Rotation
Brief description	With this software option it is possible to rotate the display content in steps of 90 degrees.
Revision ID document	V1.0

2 System requirements and restrictions

System requirements and restrictions	
Supported Platforms and devices	Berghof PLC or ET/WT devices of the MX6 platform with displays (e.g.: DCs, ETs). Additional information regarding availability and compatibility can be found in options section of the product catalog..
Firmware	MX6 Version 1.12.0 or higher
Additional requirements	— BghSystemMX6 library V1.7 or higher required for use with CODESYS
Restrictions	— Only devices with displays and screen resolution larger than 480 x 272 pixels are supported — Splash screens will not be rotated — Display content may be smaller when rotated 90 or 270 degrees

3 Product description

With this extension it is possible to rotate the content of the display in steps of 90 degrees. More flexibility in mounting of the device is an additional benefit (you can mount the device upside down or rotated).

Display content is centered but not stretched when rotating 90 or 270 degrees. So there may be black borders above and below the content.

Rotation settings can be done in the web interface, in CODESYS software (PLC only) or the configuration dialog (E-Terminal and Web-Terminal only).

4 Quick Start Guide

4.1 Rotation setting in the web interface

To change the screen rotation select "Display" from the left side in "Configuration". Activating the little arrow of the drop-down box (see green arrow) will show the selectable angles to what the screen rotation can be set. There are 4 angles that can be selected (0, 90, 180, 270 degrees). All rotation is done counter clockwise. For the new rotation to become active, it has to be committed by activating the "Change" button (the one below "Screenrotation"). After a reboot the display contents will be shown in relation to the selected rotation value.

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Display

Splash-Screen

Durchsuchen... Keine Datei ausgewählt.
 Daten absenden

Brightness

Brightness Level: 7 ▾
 Change

Rotation

Screenrotation (counter clockwise): 0 ▾

Change

Touchscreen

Touchscreen Mode*: single ▾
 Change

* - CODESYS application has to support multitouch (special setting in IDE).
 Singletouch application will not work if multitouch is enabled !

4.2 Rotation setting in configuration dialog

Configuration of the screen rotation on an E-Terminal or Web-Terminal can be done either in the web interface as shown in the previous chapter or in the configuration dialog on screen. On the main screen (after boot-up) enter the configuration dialog by activating the “configuration” button. Activate the “Next” button until you reach the Screen Rotation configuration screen as shown below. By activating the “Change” button the desired screen rotation value can be selected. Each activation of the “Change” button selects the next valid value (values are 0, 90, 180 and 270 degrees). Activate the “Next” button until you can save the new configuration. After rebooting the display contents will be shown in relation to the selected rotation value.

E-Terminal Settings: Screen Rotation

Rotation: **0 degrees**

Change

Back

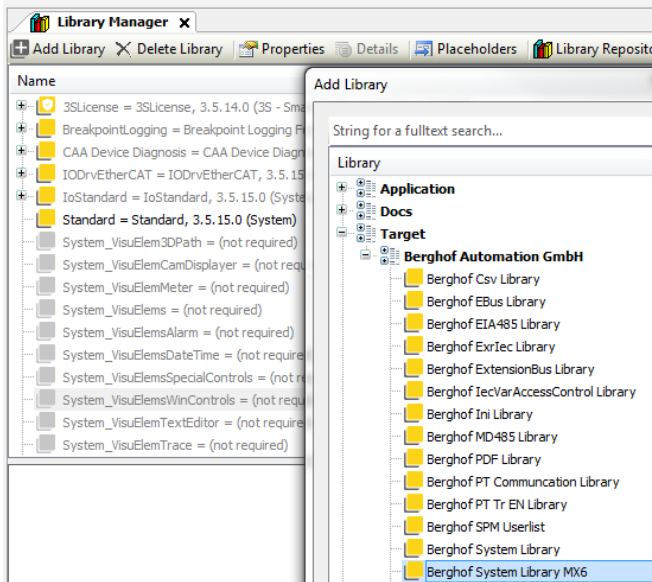
Cancel

Next

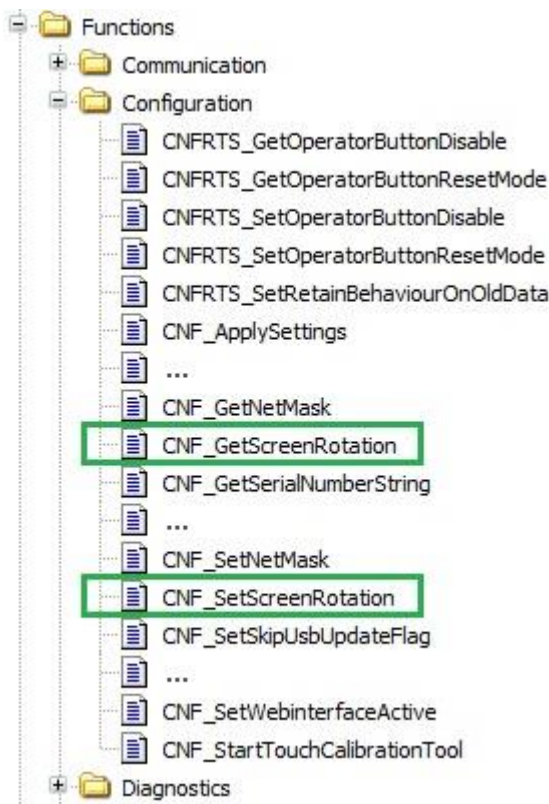
(screenshot looks slightly different on a web terminal)

4.3 Rotation setting in CODESYS

To change the rotation of the screen within the CODESYS application, the "Berghof System Library MX6" library must be included in the project's library manager. This library is part of the Berghof target.



Available functions for handling display rotation (outlined in green):



4.3.1 Example for reading the rotation

The following example demonstrates how to read the rotation using a function block created in structured text. The CNF_GetScreenRotation function retrieves the rotation value and stores wCurrentRotation variable. Please note that the address of the variable to receive the value is passed to the function. In case of an error -1 is returned.

```

FUNCTION_BLOCK GetDisplayRotation
VAR
    wCurrentRotation : WORD := 0;
END_VAR

VAR_OUTPUT
    nRotation : INT := -1;
END_VAR

IF CNF_GetScreenRotation(ADR(wCurrentRotation)) = 0 THEN
    nRotation := WORD_TO_INT(wCurrentRotation);
END_IF

```

4.3.2 Example for setting the rotation

The following function block shows how to set the rotation with the CNF_SetScreenRotation function in structured text. The function block expects the rotation to be set in degrees as input value. Valid values are 0, 90, 180 and 270. First, the function block checks whether the value passed is valid. Only in this case the function CNF_SetScreenRotation is called. Otherwise, the function block returns -2 as result. If an error occurred while setting the rotation, the function block returns -1 as result. The new rotation is only effective after a restart of the PLC.

```

FUNCTION_BLOCK SetDisplayRotation
VAR_INPUT
    wRotationToSet : WORD;
END_VAR

VAR_OUTPUT
    nResult : INT := -1;
END_VAR

IF wRotationToSet = 0 OR wRotationToSet = 90 OR wRotationToSet = 180 OR wRotationToSet = 270 THEN
    IF CNF_SetScreenRotation(wRotationToSet) = 0 THEN
        nResult := 0;
    END_IF
ELSE
    nResult := -2;
END_IF

```

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