

Kollmorgen Visualization Builder



The image shows a promotional graphic for the Kollmorgen Visualization Builder software. On the left, a white rounded rectangle contains the 'KOLLMORGEN' logo at the top, followed by 'KAS' in large bold letters. Below this is a screenshot of the software's operator interface, which includes a 'Slide' control, a 'Bar' chart, a 'Numeric' display showing '0', a 'Fill' gauge showing '239202', and a 'Numeric Table' with a grid of numbers 1-9. A mouse cursor is pointing at the 'Numeric' display. The right side of the graphic is a blue background with the text 'Kollmorgen Automation Suite' at the top, followed by 'KOLLMORGEN VISUALIZATION BUILDER' in large white letters, and the slogan 'Because Motion Matters' in italics. Below the slogan is a paragraph of text describing the software as part of a high-performance motion control and automation systems development suite.

Kollmorgen Automation Suite

KOLLMORGEN VISUALIZATION BUILDER

"Because Motion Matters"

Kollmorgen Visualization Builder Software is part of the high-performance Motion Control and Automation Systems Development Suite of tools from Kollmorgen. Using this software suite, you can quickly and easily create Operator Interface panels that are easy to develop and intuitive to use.

Edition A, April 2017

Keep all manuals as a product component during the life span of the product.
Pass all manuals to future users / owners of the product.

KOLLMORGEN

Because Motion Matters™

Revision	Remarks
A, 04/2017	Initial version

IMPORTANT NOTICE

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Technical changes which improve the performance of the device may be made without prior notice!

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1 INTRODUCTION

1.1 Safety Precautions

Both the installer and the owner and/or operator of the HMI panel must read and understand the manual.

1.2 Trademarks

Microsoft, Windows, Windows embedded CE6, Windows Embedded Compact 2013, Windows 7, Windows Embedded Standard 7 are registered trademarks or trademarks of Microsoft Corporation in the USA and/or other countries. Any additional trade names given in this documentation are trademarks of their corresponding owners.

1.3 References

The installation, technical data as well cutout and outline dimensions of the panels are described in the installation manual for each HMI panel. Please refer to the Installation manuals and the Kollmorgen Visualization Builder manual for further information.

Note:

Current documentation and software updates can be found on <http://www.kollmorgen.com>

1.4 Operating Systems

Panel family	Runtime Versions (licenses)	Description
<ul style="list-style-type: none"> – AKI-MOD-CDA – AKI-MOD-CDB – AKI2G-MOD-CDA 	Windows CE6	Includes support of most existing features.
– AKI2G-MOD-CDB-07T	Windows Embedded Compact 2013 Runtime (Entry)	Basic license, not supporting: Streaming Media Playback PDF Reader VB Script Jscript
– AKI2G-MOD-CDB-12T	Windows Embedded Compact 2013 Runtime (General embedded)	Includes support of most existing features.

2 BOOT

2.1 Welcome Screen

1. Apply power to the HMI panel.
2. Within 20–30 seconds, the **Welcome Screen** will appear.

The following items about the HMI panel are listed:

- Size of internal memory card, if applicable
- IP address
- Panel image version

If a project has been downloaded to the panel, it will be loaded automatically.

If there is no project in the panel, touching the screen will display the Service Menu.

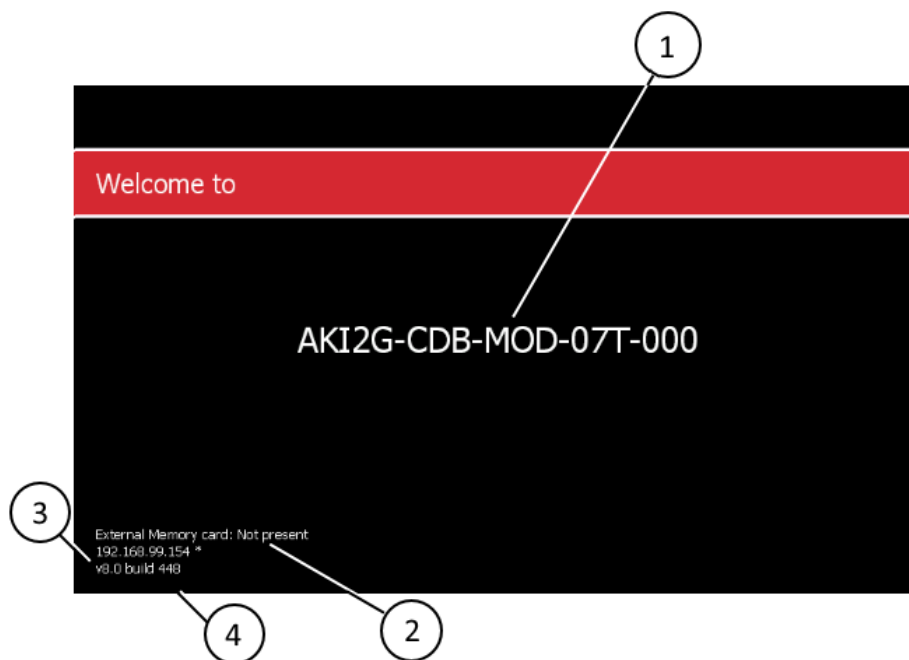


Figure 2-1: The Welcome Screen on an HMI panel

Position	Description
1	HMI panel type.
2	External Memory card status.
3	Network status. If a network cable has been detected, an asterisk is shown after the IP address.
4	Panel image main version and build number.

3 SERVICE MENU

The service menu for the HMI panel can be accessed before a project is downloaded.

3.1 Service Menu in an Empty Panel

When no project is loaded in the panel memory, the panel will boot, displaying the Welcome screen.

- Press anywhere on the panel display to enter the service menu.

3.2 Service Menu in a Panel containing a Project

Perform the following steps to enter the service menu:

1. Apply power to the panel.
2. When the hourglass appears, press a finger on the screen and hold for approximately 20 seconds.
3. If the service menu is password protected, you will be prompted for a pin code. Enter pin code.
4. The touch calibration screen will display the following message:
“Tap anywhere on screen or touch calibrate will start in 10 seconds.”
5. Press the screen once again to enter the service menu.

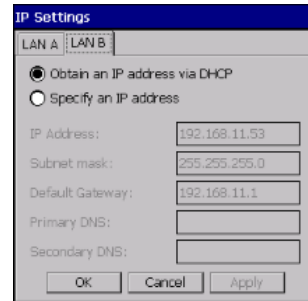


3.3 IP Settings

The following parameters can be set:

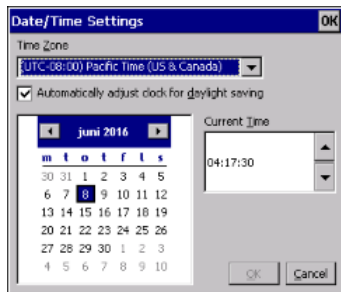
- IP address
- Subnet mask
- Default gateway
- DNS settings for the Ethernet port on the HMI panel

The default setting for LAN A is: IP address 192.168.1.1, Subnet mask 255.255.255.0



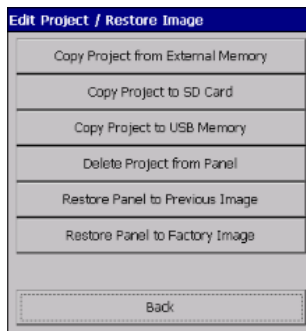
If the HMI panel is equipped with two Ethernet ports, then a second tab is shown in the IP settings dialog. The default setting for LAN B is “Obtain and IP address via DHCP”.

3.4 Date/Time



The date/time settings dialog allows setting of the Time zone, date, time and also setting automatic adjustment of clock for daylight saving.

3.5 Edit Project



The edit project / restore image dialog allows modifying the project in an HMI panel and, if needed, restore the panel image to a previous version.

3.5.1 Copy Project from External Memory

This option enables the function to copy an Kollmorgen Visualization Builder project from an external memory, USB flash drive or storage device connected to one of the HMI panels USB-ports.

3.5.2 Copy Project to SD Card

This option enables the function to copy the Kollmorgen Visualization Builder project and all the files needed to run the application to an external SD Card.

Note:

This option is not available on AKI2G-MOD-CDA

3.5.3 Copy Project to USB

The Kollmorgen Visualization Builder project and all the files needed to run the application are copied to an external USB flash drive or other USB connected storage device. Make sure that the storage device is connected before trying this option.

3.5.4 Delete Project

The Kollmorgen Visualization Builder project and all its corresponding files are deleted from the HMI panel. There is no way of undeleting a project, make sure that the project should be deleted before confirming the deletion.

3.5.5 Restore Panel to Previous Image

The HMI panel image can be restored to the panel image version the HMI panel was using, before a new panel image was loaded into the HMI panel. This option is used to restore a panel to a known working condition.



Note:

This option is only available on AKI2G-MOD-CDB

3.5.6 Restore Panel to Factory Image

The HMI panel image can be restored to the panel image version that the HMI panel was shipped with from the factory. Use this option if all else fails, this will downgrade the HMI panel to its initial state.

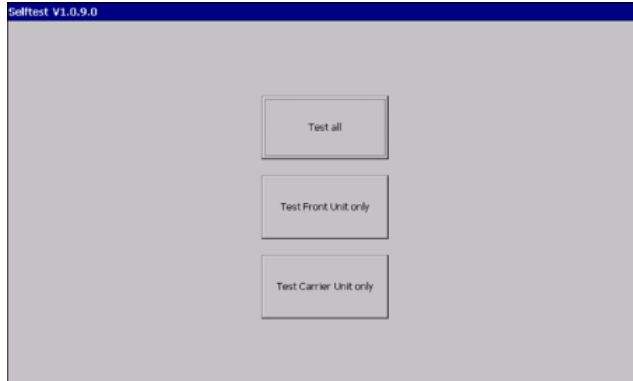
Note:

This option is only available on AKI2G-MOD-CDB

3.6 Self Test

The self test screen looks a little different depending on HMI panel type.

To be able to fully test the Carrier unit, a complete set of test plugs, SD-card and a USB flash drive is needed.



3.7 Touch Calibrate

The touch calibration screen enables the function to recalibrate the touch screen. The recalibration consists of five steps, where a crosshair on the screen is pressed and held. Take care and try to do this as precise as possible, an incorrect calibration makes it hard to use the HMI panel.

3.8 Debug Logging



The Debug Logging dialog enables the function to enable and disable the debug logging on the HMI panel. It also enables the function to move a previously created set of debug log files from the HMI panel to an USB flash drive.

Option	Description
Enable Logging	The HMI panel will start or continue to store additional debug log information in log files. A total of 10 log files of a maximum of 100 kB per file will be kept in the HMI panel internal memory. If the log files are filled to the limit, the oldest file will be over written first. This function should only be used for a limited time, as it will continuously write data to the flash memory and by that add to the flash memory wear.
Disable Logging	The HMI panel stops storing debug log data. The data will remain in the HMI panel internal memory.
Move Log to USB Memory	Moves the debug log files in the HMI panel to an external USB storage device.

3.9 Diagnostic

Category	Description
Diagnostics	Shows how many times the HMI panel has been started, how long the operating panel has been running, measured temperatures and the wear of the flash memory.
Image Information	Displays a list of the panel images available on the HMI panel.
Panel Information	Shows the make, model and revision of the HMI panel.
System Board	Shows hardware information of the System board in the HMI panel.
Display Card	Shows hardware information of the Display card in the HMI panel.

```

Diagnostics
DIAGNOSTICS:
Boot count: 193
Running time: 2258.1 h
Backlight time: 2162.9 h
CPU Temperature: 45°C
CPU Temp. Range: 30°C to 59°C
Board Temperature: 44°C
Board Temp. Range: 24°C to 46°C
CPU over Temp. time: 0.0 h
Board over Temp. time: 0.0 h
Backup Recovery times: 0
Flash memory life used: 0A - 10%
Flash memory EOL info: Normal
IMAGE INFORMATION:
Factory Image: v8.0 build 0
Previous Image: v8.0 build 1
Current Image: v8.0 build 449
Current EBoot: N/A
PANEL INFO:
Hardware ID: 0
Hardware Version: 1
Brand ID: 9
Brand name: Kollmorgen
Brand type: AKI20-CBE-MKO-12T-000
Product ID: 0
C# Version: 8
Device Type: 4
OEM ID: 0
Image Version: v8.0 build 449
Serial Number: 162394-00123
SYSTEM BOARD:
Type: IMx7 (1)
Variant: Advanced (2)
RevRevision: 054
CPU Type: IM66_Q0AD (3)
Features: Bvram,Can1,
Can2,lan2,
Usbhub,SpiNorFlash,
SdCard,SpiPort,
Pcie
Serial Number: MNF490200041
DISPLAY CARD:
Panel Resolution: 1280x800
Cypress Version: 4.4
Build Date: 18-08-2016
SELFTESTS:
FrontBoard card
[PASSED] Display
[PASSED] Touch
[PASSED] Power LED
[PASSED] Backlight
[PASSED] EEPROM
Systemboard board
[PASSED] RS232 (COM1)
[PASSED] RS422 (COM2)
[PASSED] RS485 (COM3)
[PASSED] USB
[PASSED] Ethernet 1
[PASSED] Ethernet 2
[PASSED] SD Card
[PASSED] Buzzer
    
```

Category	Description
Selftest	Shows the result of the last self test.
Summary of flash drive storage	Shows a summary of the flash drive storage status.
Network adapters	Shows IP configurations and MAC addresses for the network adapters in the HMI panel.

```

Diagnostics
Summary
[PASSED] RS232 (COM1)
[PASSED] RS422 (COM2)
[PASSED] RS485 (COM3)
[PASSED] RAM
[PASSED] Real Time Clock
[PASSED] EEPROM
[PASSED] Core Temperature
[PASSED] Board Temperature
[PASSED] Touch
[PASSED] Buzzer
[PASSED] Power LED
[PASSED] Backlight
[PASSED] Display
[PASSED] USB
[PASSED] Ethernet 1
[PASSED] Ethernet 2
[PASSED] SD Card
Folders:
Path      Size      Free Free
\         127.77 MB 127.53 MB 99%
\flashdrive 3.05 GB  3.02 GB  98%
Memory:
RAM:      1.8 GB  1.58 GB  87%
Network interfaces:
Adapter name: LAN A
IP address: 192.168.99.150
IP mask: 255.255.255.0
Gateway: 192.168.99.254
DHCP: Enabled
Adapter name: LAN B
MAC address: 00-50-6C-07-91-00
Adapter name: LAN C
IP address: 169.254.196.69
IP mask: 255.255.0.0
Gateway: 0.0.0.0
DHCP: Not Enabled
MAC address: 00-50-6C-07-91-00
    
```

Note:

The information (layout and number of screens) on the diagnostic screen pages appear differently depending on screen size. The screenshots above are taken from a AKI2G-MOD-CDB-12T-000 HMI panel.

3.9.1 Export Diagnostic Information

Click **Save to USB memory** to export the diagnostic information to an external USB flash drive or other USB connected storage device. Make sure that the storage device is connected before trying this option.

4 IMAGE UPDATE

In the HMI panel, KVB Runtime comes pre-loaded on delivery.

KVB Runtime can be updated, either via Ethernet using a PC, or in some cases, using an external storage device.

The Image Loader utility is used to create Image Loader SD-cards and USB-sticks or to transfer a panel image to an HMI panel over Ethernet.

The screenshot shows a software interface for updating the panel image. It is divided into two main sections: 'External Memory' and 'Ethernet'.
 - The 'External Memory' section includes a text box with instructions: 'Copies necessary files to a external memory. When ready, insert in panel and cycle power to initiate the update.' Below this is a 'Select drive:' dropdown menu and a 'Create' button. There is also an unchecked checkbox labeled 'Make Recovery SD Card'. A note below states: 'Note: SD recovery should only be used under special circumstances, see Manual. Updating the EBOOT is normally not needed and special care must be taken when doing this update to ensure that power is uninterrupted.'
 - The 'Ethernet' section includes a text box with instructions: 'Sends the update through Ethernet. Panel will reboot automatically when the transfer is finished.' Below this is a 'Target IP:' text field containing '192.168.99.150' and an 'Update' button.
 - At the bottom of the interface, there is a progress bar showing '0%' and a status indicator that says 'Ready'.

Note:

The **Make Recovery SD Card** option should only be used after first consulting with Kollmorgen support.

4.1 Updating the Panel Image using USB or SD-Card

4.1.1 Preferred Way

Using a USB flash drive or SD-card to update the image in an HMI panel is the preferred method of updating the panel. This makes it possible to upgrade the panel image without the use of a PC.

Note:

AKI-MOD-CDA and AKI2G-MOD-CDA do not support updates from external storage.

4.1.2 Image + New Kollmorgen Visualization Builder Project

It is possible to upgrade both the panel image and the Kollmorgen Visualization Builder project on an HMI panel. This is done in two steps:

1. Create a panel image USB flash drive or SD-card using the Image Loader utility.

- Export the Kollmorgen Visualization Builder project from within Kollmorgen Visualization Builder, to that same USB flash drive or SD-card.

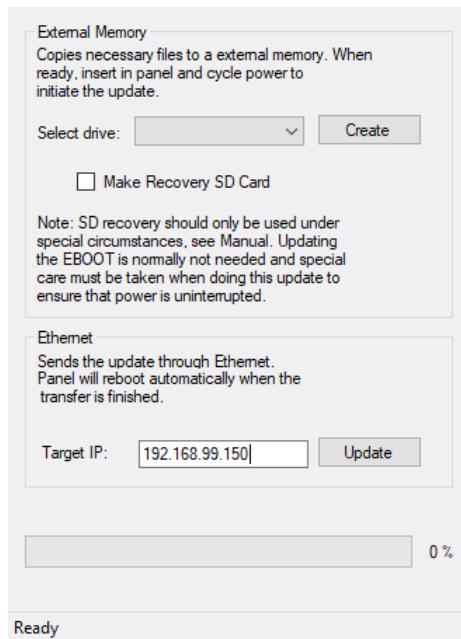
4.2 Updating the Panel Image over Ethernet

The Image Loader utility can be used to upgrade the panel image over Ethernet.

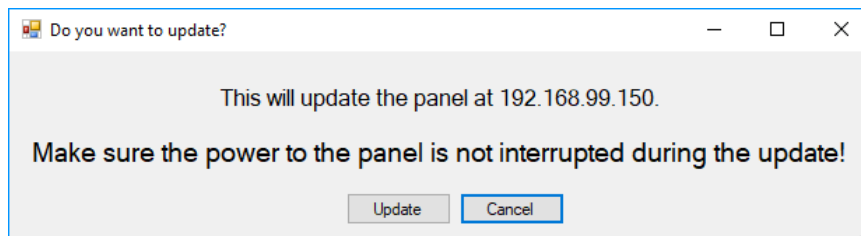
Note:

Before trying to update the panel over Ethernet, make sure that your PC is on the same IP-subnet as the HMI panel. If your panel has an IP address of 192.168.1.1, and a netmask of 255.255.255.0, then your PC has to have an IP address in the range of 192.168.1.2 – 192.168.1.254 and a netmask of 255.255.255.0, in order to be able to communicate with the panel.

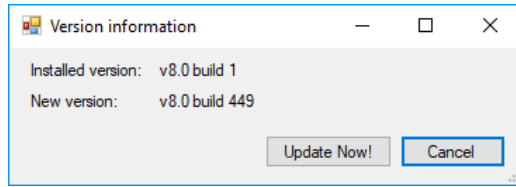
- Enter the panel target IP address in the dialog and click on **Update** to start the update.



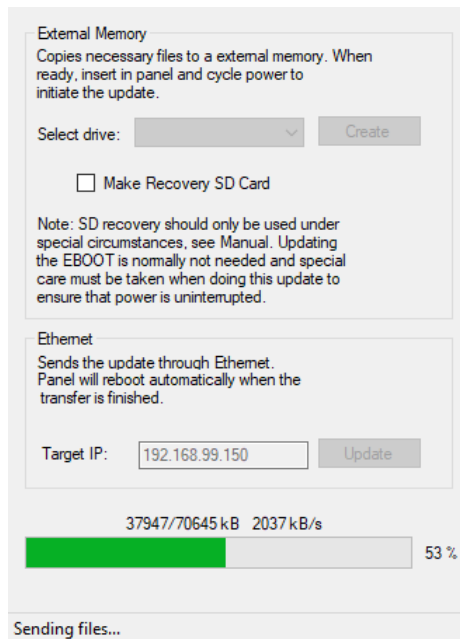
- Make sure that the IP address of the panel matches the actual panel that you want to upgrade.



- The dialog shows the current installed image and the new image the panel will be updated to after the upgrade. Click on **Update now!** to confirm the update.



- The progress bar shows the upgrade status. When the upgrade is done, the panel will restart.



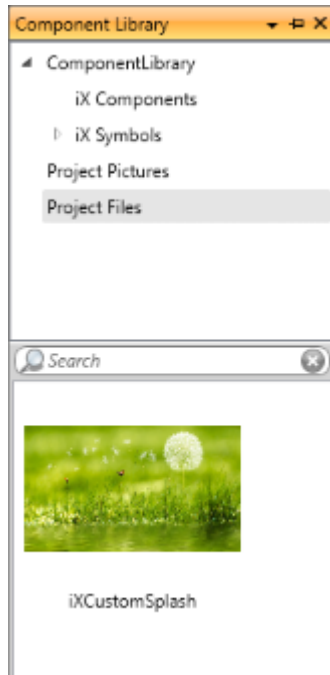
4.3 Kollmorgen Visualization Builder Project Status after Panel Image Update

On AKI2G-MOD-CDB, the Kollmorgen Visualization Builder project is unchanged after a panel image update is performed. If the panel image upgrade is made over Ethernet, an additional dialog will pop up to confirm an erasing of the current Kollmorgen Visualization Builder project. The default setting is not to erase the Kollmorgen Visualization Builder project.

5 CREATING A CUSTOM WELCOME SCREEN

The default Welcome Screen on a AKI2G-MOD-CDB HMI panel can be replaced with a custom picture.

1. Create a start-up picture with the following characteristics:
 - Size: The exact same resolution as the panel the picture will be used in
 - Name: iXCustomSplash.bmp
 - Picture format: .bmp
2. Create a Kollmorgen Visualization Builder project for the panel you want to replace the Welcome Screen on.
3. Add the picture to the project's **Project Files**.



4. Download the project to the HMI panel.
5. Reboot the panel to load the new Welcome Screen.

Tip:

To check the panel resolution, start Kollmorgen Visualization Builder, and in the wizard select the correct panel type, and then check the technical data displayed for the HMI panel.

About KOLLMORGEN

Kollmorgen is a leading provider of motion systems and components for machine builders. Through worldclass knowledge in motion, industry-leading quality and deep expertise in linking and integrating standard and custom products, Kollmorgen delivers breakthrough solutions that are unmatched in performance, reliability and ease-of-use, giving machine builders an irrefutable marketplace advantage.



Join the [Kollmorgen Development Network](#) for product support. Ask the community questions, search the knowledge base for answers, get downloads, and suggest improvements.

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