4. Hardware Settings

This chapter explains HMI settings.

4.1. Overview 4-2
4.2. I/O Ports 4-2
4.3. LED Indicators 4-2
4.4. System Reset 4-3
4.5. System Toolbar 4-4

4.1. Overview

This chapter discusses the HMI settings.

4.2. I/O Ports

The I/O ports may vary between models; please see the datasheet for more information.
The I/O Ports include:

- SD card slot: Allows downloading / uploading project file, including recipe data, event log, data log…etc. and also allows recording history data and data backup.
- COM Port: Connects PLC or other peripheral devices. The type of serial port include: RS-232, RS-485 2W, RS-485 4W, and CAN Bus.
- Ethernet: Allows downloading / uploading project file, including recipe data, event log, data log…etc. Connects to Ethernet devices, such as PLC, laptop.
- USB Host: Supports USB devices, such as mouse, keyboard, USB disk, printer, or barcode device.
- USB Client: Allows downloading / uploading project file, including recipe data, event log, data log…etc. and also allows recording history data and data backup.

For the first time operating HMI, please complete the following system settings. When finished, the project files designed using EasyBuilder Pro can be used on HMI.

4.3. LED Indicators

The LED indicators on the HMI indicate:

Models: MT8121XE, MT8150XE, MT8121iE, MT8150iE

LED	Description
PWR (Orange)	Indicates power status.
CPU (Green)	Blinks when read/write Flash Memory.
COM (Blue)	Indicates COM port communication status, blinks during communication. When communication is good, it may stay on. (Not including network communication)

Other Models:

LED	Description
PWR (Orange)	Indicates power status.
CPU (Green)	Indicates CPU status. If it blinks or goes out, there

	may be a CPU error.
COM (Blue/Red)	Indicates communication status, blinks during communication. When communication is good, it may stay on.

4.4. System Reset

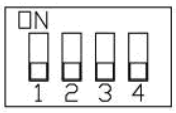
Certain HMI models are equipped with a reset button and a set of DIP switches. When using the DIP switches to change modes, the corresponding functions will be triggered. If system password is lost or forgotten, see the following steps to restore factory default.

1. Flip DIP Switch 1 to ON and the rest to OFF, and then reboot HMI. HMI will switch to touch screen calibration mode.
2. A "+" sign appears on the screen, touch the center of the sign, after all 5 signs are touched, "+" disappears and the touch screen parameters will be stored in HMI system.
3. After calibration, confirm to restore the default password, select [Yes].
4. Confirm to restore the default password again by typing [yes] and clicking [OK]. The project files and history records stored in HMI will all be removed. (The default Local Password is 111111. However, other passwords, such as Download/Upload passwords have to be reset.)

The following lists the DIP switch settings of different models. Please see the relevant installation instruction.

cMT / cMT X / eMT / iE

Dip Switch



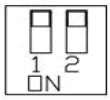
SW1	SW2	SW3	SW4	Mode
ON	OFF	OFF	OFF	Touch Screen Calibration Mode
OFF	ON	OFF	OFF	Hide HMI System Setting Bar
OFF	OFF	ON	OFF	Update OS
OFF	OFF	OFF	ON	Reserved
OFF	OFF	OFF	OFF	Normal

Note

- The state of DIP Switch 4 on each unit may be different. If it should be ON when out from factory, the Dip Switch 4 would be set ON and cut off. If it should be OFF, the Dip Switch 4 would be set OFF but the switch is not cut.

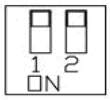
SW1	SW2	Mode
ON	ON	Restore factory default
ON	OFF	Hide system setting bar

mTV Dip Switch



OFF	ON	Update OS
OFF	OFF	Normal mode

cMT-SVR Dip Switch



SW1	SW2	Mode
ON	ON	Restore factory default
ON	OFF	Restore Ethernet IP Settings
OFF	ON	Update OS
OFF	OFF	Normal mode

4.5. System Toolbar

After rebooting HMI, you can set the system with [System Toolbar] at the bottom of the screen. Normally, this bar is hidden automatically. Only by touching the arrow icon at the bottom-right corner of the screen will the System Toolbar pop up. From left to right the icons are: System Settings, System Information, Text Keyboard, and Number Keyboard.



How to hide HMI System Setting Toolbar:

- When [DIP Switch 2] is set ON, the system setting toolbar is disabled. When set OFF; the system setting toolbar is enabled. Please restart HMI to enable/disable the toolbar.
- For mTV Series, flip DIP Switch 1 to ON to hide system setting toolbar.
- System register [LB-9020] can also enable/disable system setting toolbar. When [LB-9020] is set ON, the toolbar is displayed, and set OFF to hide the toolbar.

4.5.1. System Setting

cMT/cMT X Series

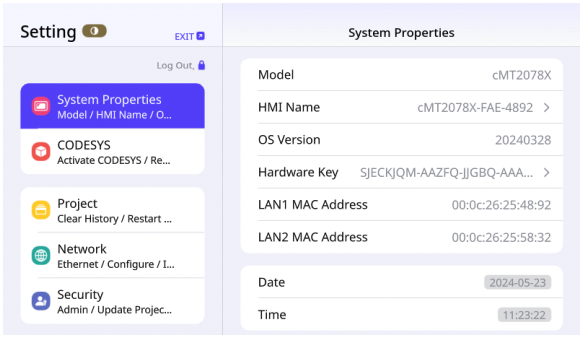
Starting from OS version 20231201, the system settings interface of the cMT X Series has been revamped. This section demonstrates the different interfaces before and after this OS version. Password is required for configuration and modification of system parameters for security. The default password is 111111.

OS versions after 20231201:



Themes

Light and dark themes available for



choice based on its intended surrounding.

System Properties

[Model]

The HMI model.

[HMI Name]

Set the HMI name for easy identification when downloading/uploading project files.

[OS Version]

The current OS version.

[Hardware Key]

The hardware key of the HMI.

[LAN1 MAC Address]

The MAC address for LAN 1.

[LAN2 MAC Address]

The MAC address for LAN 2.

[Date]

Set the local date on the HMI.

[Time]

Set the local time on the HMI.

[Brightness]

Adjust the screen brightness.

[Sound]

Adjust the system volume.

[Language]

Select the system interface language.

[Input Method]

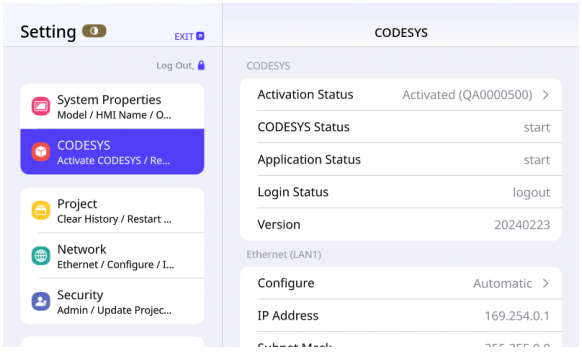
Select the input method for the system keyboard, multiple selections allowed.

[Show Start Button]

Enable to display the Start button. If not enabled, the button's position can be set, and it will appear by long-pressing for 1.5 seconds.

[Show Download Popup Window]

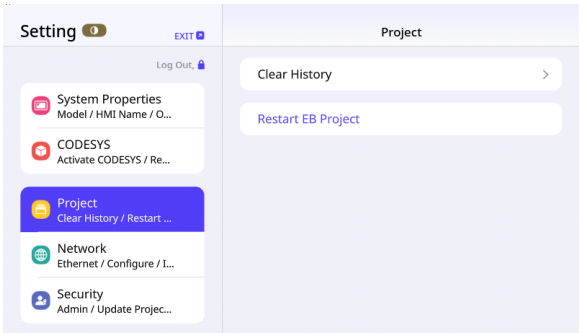
Enable or disable the download popup window.

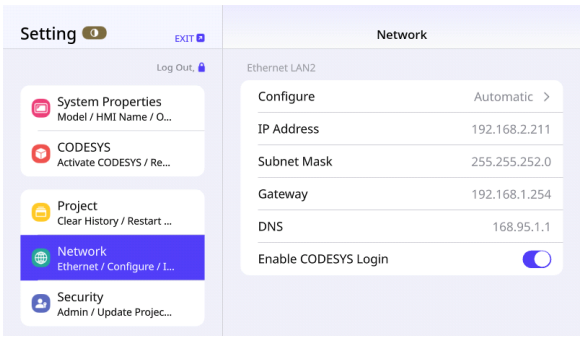


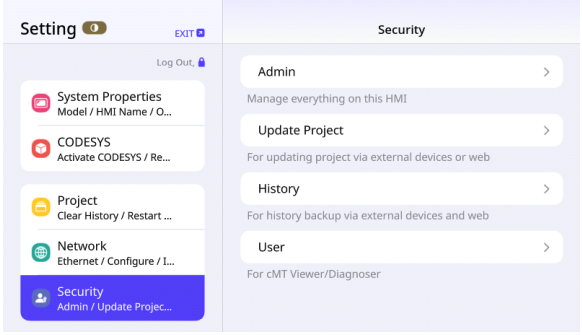
[Show Mouse Cursor]
Enable or disable the mouse cursor.
[System Keyboard Sound]
Enable or disable the system keyboard sound.
[Direction]
Select the display orientation, options include 0 degrees, 90 degrees, 180 degrees, or 270 degrees.
[System Metrics]
View CPU, memory, eMMC, and network usage.
[Reset HMI to Default]
Reset the HMI to factory settings.
[OS Upgrade]
Select the OS file from SD card or USB drive to begin upgrading system firmware. During the upgrade, do not turn off the power. For detailed upgrade steps and precautions, please refer to the OS upgrade instructions for each model.
[Third-party Licenses]
View and manage third-party licenses.

CODESYS

[Activation Status]
View the activation status of CODESYS.
[CODESYS Status]
View the status of CODESYS.
[Application Status]
View the running status of the application.
[Login Status]
View the login status.
[Version]
View the version number of CODESYS.
[Ethernet (LAN1)]
Set the IP Address, Subnet Mask, and







Gateway.

Project

[Clear History]

Clear the historical data related to project files, such as recipes, event logs, data sampling, etc.

[Restart EB Project]

Restart the EasyBuilder Pro project file.

Network

To download project files to the HMI via Ethernet, the HMI's IP address needs to be correctly configured. Choose to automatically assign an IP address or enter it manually.

[Ethernet LAN1]

Typically used for external network connections, requiring the configuration of a gateway and Domain Name System (DNS).

[Ethernet LAN2]

Typically used for internal network connections, such as connecting to a PLC. To avoid network conflicts, LAN1 and LAN2 should be set in different subnets.

[Network Bridge]

For dual Ethernet port models, bridge mode can be enabled to allow LAN1 and LAN2 to be in the same network segment, achieving the function of a switch.

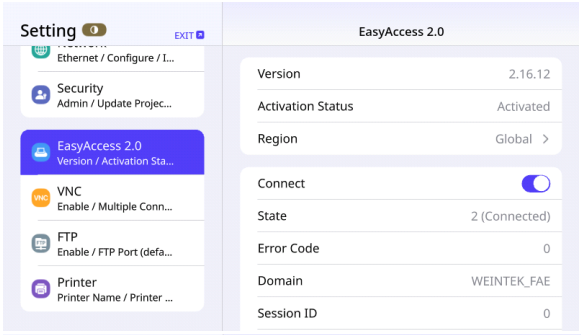
Security

Manage passwords for different users.

[Admin]

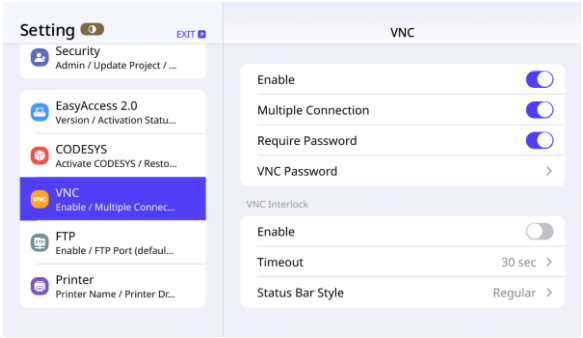
Highest level of access, capable of operating all functions and settings, including file upload and download, historical data backup, and password

modification for all permission levels.
[Update Project]
This password is used for file upload and download and historical data backup.
[History]
This password is used for FTP Server login and historical data backup.
[User]
Used for logging into cMT Viewer/Diagnoser. The passwords for the above three permission levels can also be used in cMT Viewer.



EasyAccess 2.0

Information page for EasyAccess 2.0.



VNC

[Enable]
When VNC function is enabled, VNC client devices can connect to the HMI. This allows remote users to view and operate the HMI.
[Multiple Connection]
Allows multiple VNC client devices to connect. Please note that the more VNC client devices connected simultaneously, the more it may impact the communication speed of the HMI.
[Require Password]
To protect system security, a password can be set so that only VNC clients entering the correct password can connect to the HMI.

VNC Interlock:
[Enable]

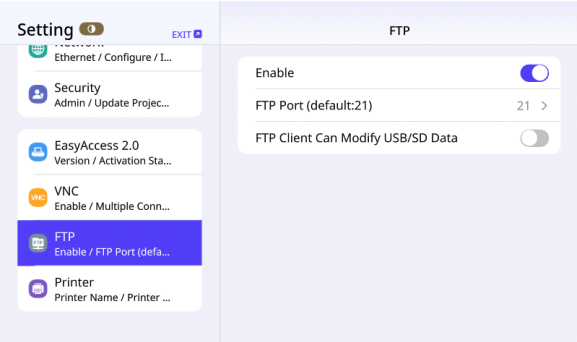
Enable VNC interlock function to enhance system security and management.

[Timeout]

Set the timeout period for VNC interlock. If there is no operation within the set time, the session will be automatically disconnected.

[Status Bar Style]

Choose the display mode of the status bar, which can be adjusted as needed.



FTP

[Enable]

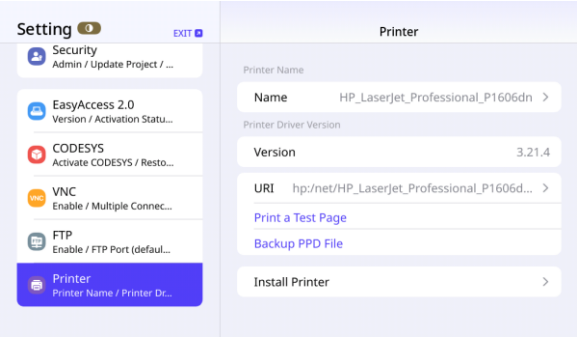
Enabling FTP service allows users to access files on the HMI via FTP clients over the network.

[FTP Port (default:21)]

Set the port number for FTP service. The default port number is 21.

[FTP Client Can Modify USB/SD Data]

This option allows FTP clients to modify files on the USB drive or SD card connected to the HMI. When enabling this feature, ensure appropriate security measures are in place to prevent unauthorized access.



Printer

[Name]

The name of the printer connected to the HMI.

[Version]

The current version of the printer driver.

[URI]

The URI of the printer, used for locating the printer.

[Print a Test Page]

Clicking this option will print a test page to check if the printer is functioning properly.

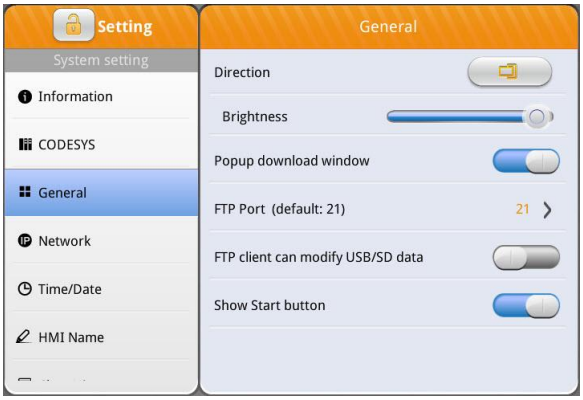
[Backup PPD File]

Back up the PPD (PostScript Printer Description) file, which describes the printer's capabilities.
[Install Printer]
Configure the settings for the printer installation.See Chapter 23.3 in this user manual for more information on printer installation.

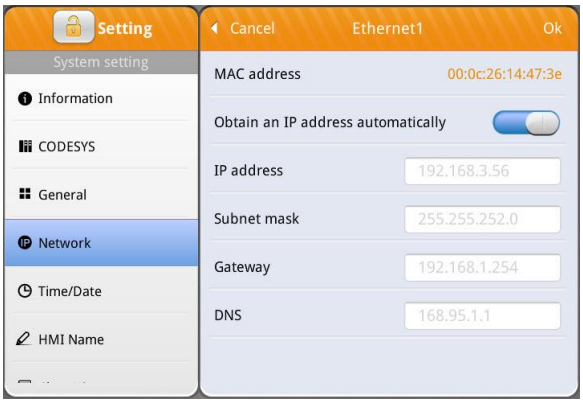
OS versions before 20231201:



CODESYS
Enter the activation code to activate CODESYS.



General
General settings including FTP settings.
[Direction]
Select the display orientation, options include 0 degrees, 90 degrees, 180 degrees, or 270 degrees.
[Brightness]
Adjust screen brightness.
[Popup download window]
When enabled, the download window can pop up.
[Show Start button]
When enabled, the Start button is displayed.
[Show mouse cursor]
When enabled, the mouse cursor is displayed.



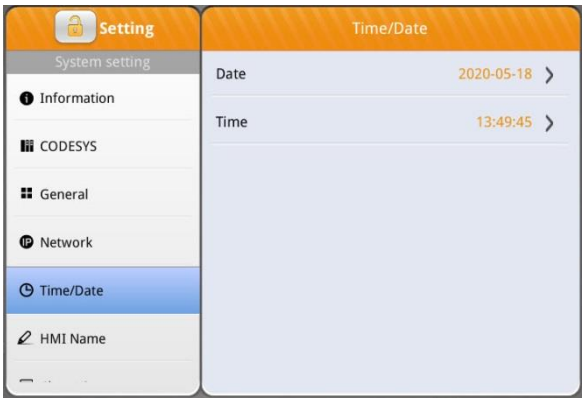
Network

To download project files to the HMI via Ethernet, the HMI's IP address needs to be correctly configured. Choose to automatically assign an IP address or enter it manually.

To use Email or EasyAccess 2.0, the DNS needs to be set correctly. For models with two Ethernet ports, associate two IP addresses with different domains to avoid network conflict.

[Enable Bridge Mode]

For dual Ethernet port models, bridge mode can be enabled to allow LAN1 and LAN2 to be in the same network segment, achieving the function of a switch.



Time/Date

Set the local date and time on the HMI.



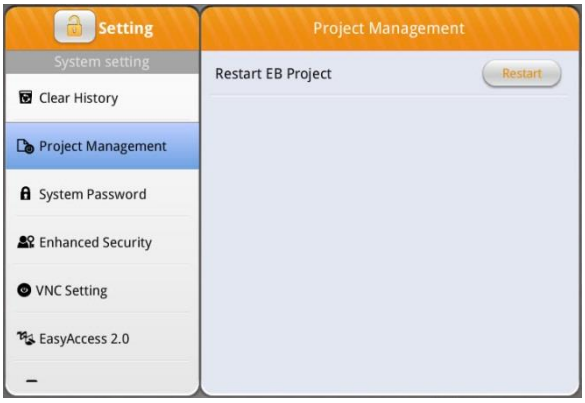
HMI name

Set the HMI name for easy identification when downloading/uploading project files.



Clear History

Clear historical data stored on HMI.



Project Management

HMI can be rebooted by clicking the Restart button.



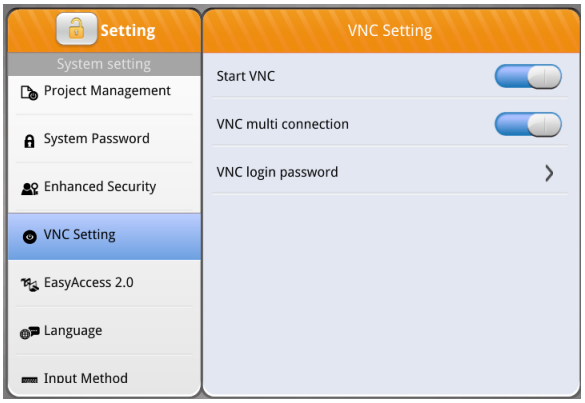
System Password

By default the password is 111111. User-defined passwords can be used after verification.



Enhanced Security

Add or delete user accounts and manage user privileges.



VNC Setting

When enabled, VNC can be used to monitor a remote HMI over an Ethernet network.

[Start VNC]

Allows connections from VNC client devices.

[VNC multi connection]

Allows multiple VNC client devices to connect. Note that the more VNC client devices connected simultaneously, the more it may impact the communication speed of the HMI.



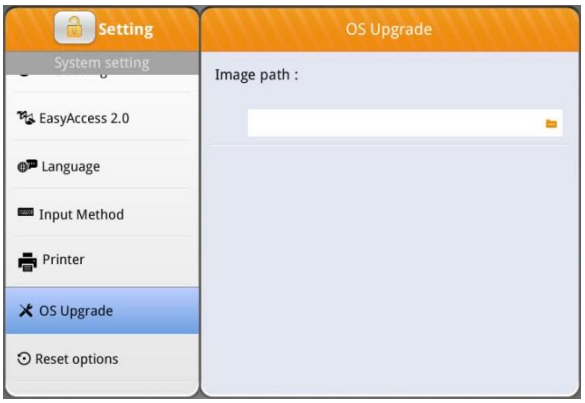
EasyAccess 2.0

Activate EasyAccess 2.0 service.



Printer

See Chapter 23.3 in this user manual for more information on printer installation.



OS Upgrade

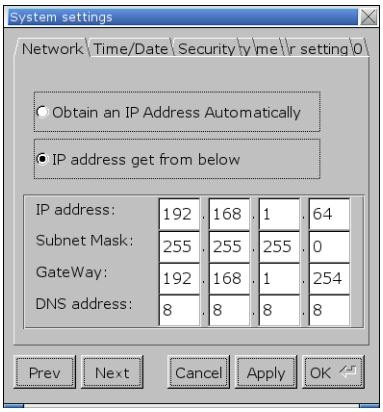
Select the OS file from SD card or USB drive to begin upgrading system firmware. During the upgrade, do not turn off the power. For detailed upgrade steps and precautions, please refer to the OS upgrade instructions for each model.



Reset options

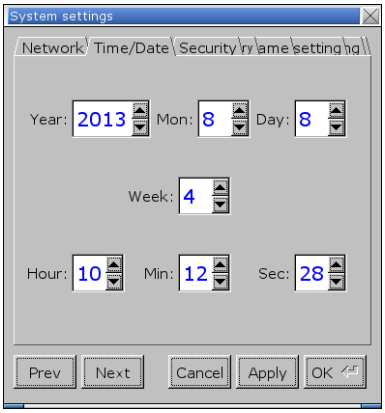
Restore HMI to factory settings.

eMT/iE/XE/mTV Series



Network

When downloading project file to HMI via Ethernet, set the correct IP of the target HMI. You can obtain an IP address automatically or enter the IP address manually. To use Email and EasyAccess2.0, please set correct DNS address. For models with two Ethernet ports, please associate two IP addresses with different domains to avoid network conflict.



Time / Date

Set HMI local time and date.



Security

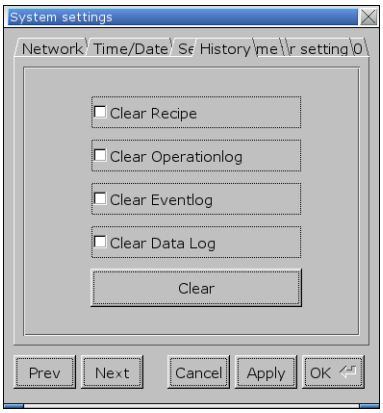
Password protection, the default is 111111. Please click the buttons to set the passwords, and finish password confirmation.

[Password for entering system]

[Password for uploading project]

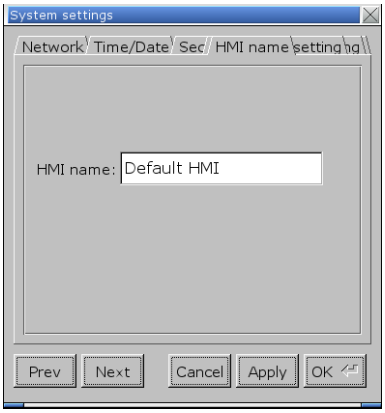
[Password for downloading project]

[Password for uploading history data]



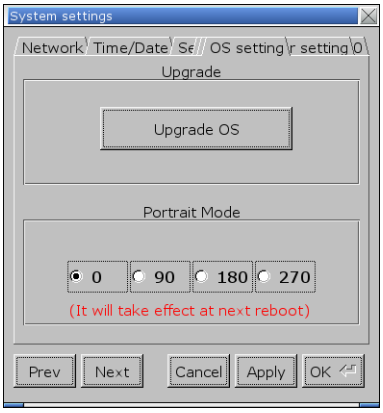
History

Clears history data in HMI.



HMI name

Set HMI name to be used when download/upload project.



OS setting

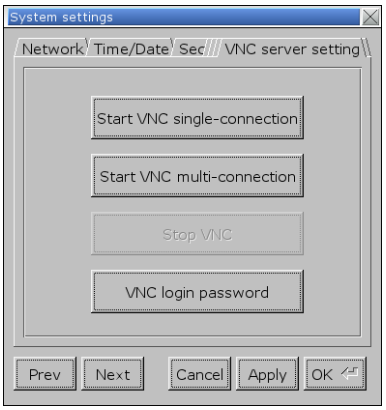
[Upgrade OS]

Upgrade firmware. Please do not turn off or unplug HMI during OS upgrade process. For more details, see the instruction about OS upgrade of the model used.

[Portrait Mode]

Set screen orientation mode. After changing the mode, reconnect HMI to power supply, for the setting to take effect. That is, disconnect all power from HMI, and then connect again. If portrait mode

is used (90 or 270 degree), the project must be designed for portrait mode, otherwise it cannot be correctly displayed.



VNC server setting

Remote HMI monitoring and controlling via Ethernet.

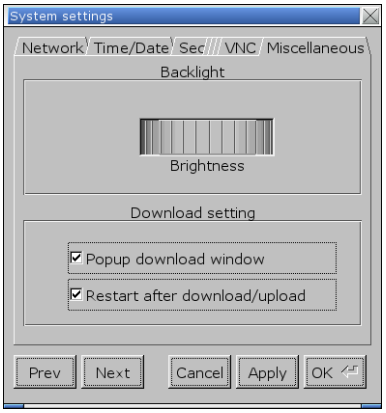
[Start VNC single-connection]

Allows connection with one VNC client.

[Start VNC multi-connection]

Allows connection with multiple VNC clients. Connecting more VNC clients may slow down the communication speed.

Please see the settings steps in the later part.



Misc 1

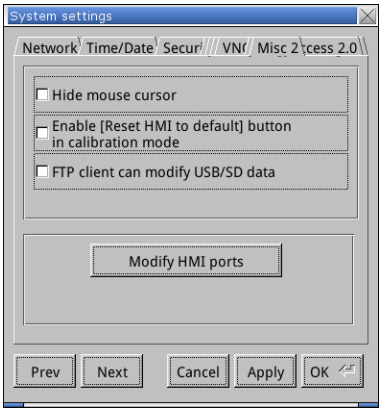
Rotary switch for adjusting LCD brightness.

[Popup download window]

If selected, after inserting USB disk or SD card to HMI, the Upload / Download dialog box shows.

[Restart after download/upload]

If selected, restarts HMI automatically after uploading / downloading project.



Misc 2

[Hide mouse cursor]

If selected, the mouse cursor will be hidden.

[Enable [Reset HMI to default] button in calibration mode]

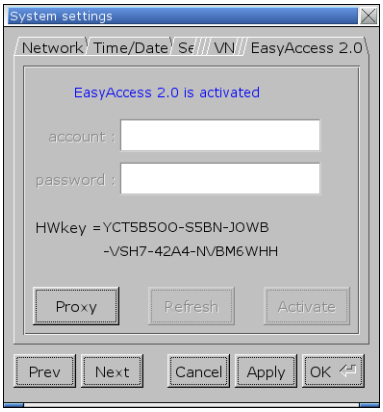
If selected, when the operator presses and holds anywhere on the screen for more than 2 seconds during HMI startup, the touch screen calibration mode will start. After calibration, [Reset HMI to default] option shows.

[FTP client can modify USB/SD data]

If selected, USB/SD data can be modified using FTP.

[Modify HMI ports]

Change the port number for Upload/Download and FTP.



EasyAccess 2.0

Activate EasyAccess 2.0 service.

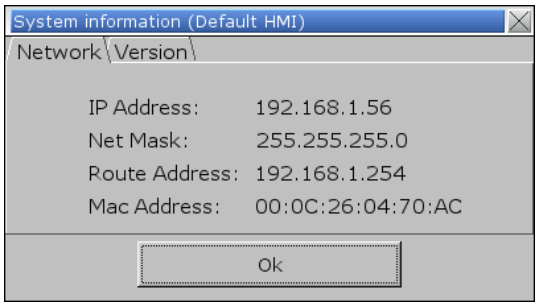
The following steps explain how to set VNC server.

1. Enable HMI VNC server, set password.
2. Install VNC Viewer on the PC.
3. In VNC Viewer enter remote HMI IP and password.



4.5.2. System Information

Network: Displays network information & HMI IP address.



Version: Displays HMI firmware version and model type.

