Honeywell

Smart Display & WEB HMI

Touchscreen IP Display

User Guide

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Support and Other Contacts

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ABOUT THIS GUIDE

Introduction

This guide introduces and describes how to use the Honeywell WEB-HMI touch-screen monitors.

The WEB-HMI series of touchscreen monitors are HTML5 IP browser compatible touchscreen monitors. They combine state-of-the-art features and top performance with an outstanding design.

Overview of the different display types and the BSP types used on the display:

Table 1 Display and BSP Types used

SKU	Display size (Inch)	Touch screen	BSP type
WEB-HMI4/C	4.3	Resistive	UN60
HMI-05C11WL0	5	Capacitive	SB78
HMI-07C11WL0	7	Capacitive	SB78
HMI-10C11WL0	10.1	Capacitive	SB78
HMI-15C11WL0	15.6	Capacitive	SB78
WEB-HMI7/C	7	Resistive	UN65
WEB-HMI7/CF	7	Capacitive	SB78
WEB-HMI10/CF	10.1	Capacitive	SB78
WEB-HMI15/CF	15.6	Capacitive	SB78
WEB-HMI21/CF	21.5	Capacitive	SB78
WEB-HMI7/CX	7	Capacitive	UN65
WEB-HMI10/CX	21.5	Capacitive	UN65
WEB-HMI15/C	10.1	Capacitive	UN65
WEB-HMI21/C	21.5	Capacitive	UN65

BSP (Board Support Package):

On the display the 'board support package' (BSP) is the firmware/software con-taining hardware-specific boot firmware and device drivers and other routines that allow a given embedded operating system to function on the display.

Depending on the panel, the proper BSP type must be used.

Intended Audience

This document is intended for the operators of Smart Display and WEB-HMI touchscreen monitors.

Scope

This guide describes how to use WEB-HMI touchscreen monitors and it also pro-vides information on the features and functionalities common to all the variants of the monitors. The product specification and installation are beyond the scope of this guide.

Related Documents

Table 2 WEB-HMI Touchscreen Monitor Related Documents

Document Title	Document Number
WEB-HMI Touchscreen Monitor Product Data	31-00389
WEB-HMI Touchscreen Monitor Installation Instructions	31-00390

SET UP THE DISPLAY

Power up the display for the first time.

After starting up the device for the first time, you are located on the settings page. You need to login to the setup menu to configure the device.

Fig. 1 Setup Menu to Configure the Device

Note: *Touching any input box (example: Username) will display a virtual keyboard on the lower half of the screen (see Virtual Keyboard for further details).*
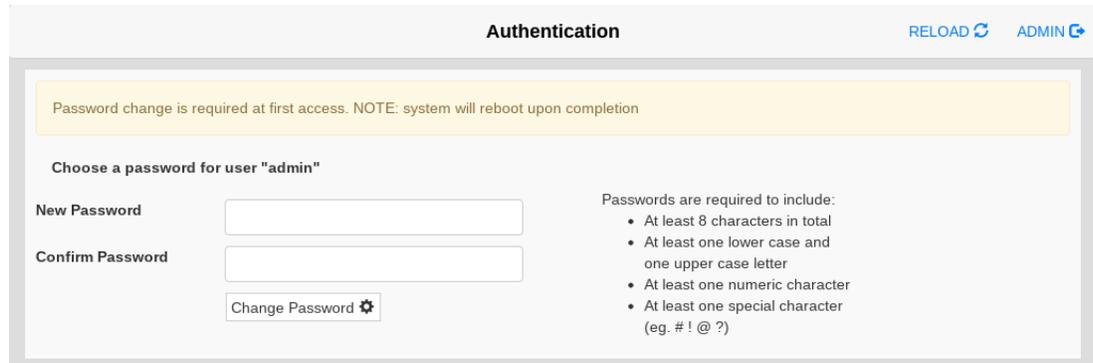
Enter 'admin' in the Username box.

Enter 'admin' in the Password box.

Select Proceed. The Authentication screen is displayed, and you will be forced to change the password for the 'admin' user.

This password must follow security requirements and must be remembered all the time to be able to change the configuration of the device.

New password: _____

Fig. 2 Setting up the Password

Specify the new password in the New Password box, which must:

- Be at least 8 characters long.

- Contain at least one lowercase and one uppercase character.

- Contain at least one numeric character.

- Contain at least one special character (e.g. *#* ! @ ?).

Confirm the new password in the Confirm Password box. Select Change Password. The 'admin' password will be changed, and the device will now reboot. The new password will be required to change the configuration of the device.

Note: *DO NOT FORGET THE NEW PASSWORD. If you forget the 'admin' password, perform a factory reset of your device (see Tap-Tap Menu System Settings: Device Restore for more details)*

Wait for the device to reboot and display the Login screen again.

Enter 'admin' in the Username box.

Enter the new password in the Password box.

Note: *It is now needed to define at least the following configurations on the system settings menu of the panel to be able to display the webpage.*

– IP address of the touchscreen monitor, see chapter Network, page 18

– URL of the webpage which should be displayed on the panel, see chapter Web Browser, page 29

3

USER INTERFACE OVERVIEW

This section provides a general description of the display user interface and virtual keyboard used for data entry.

Behavior after power on
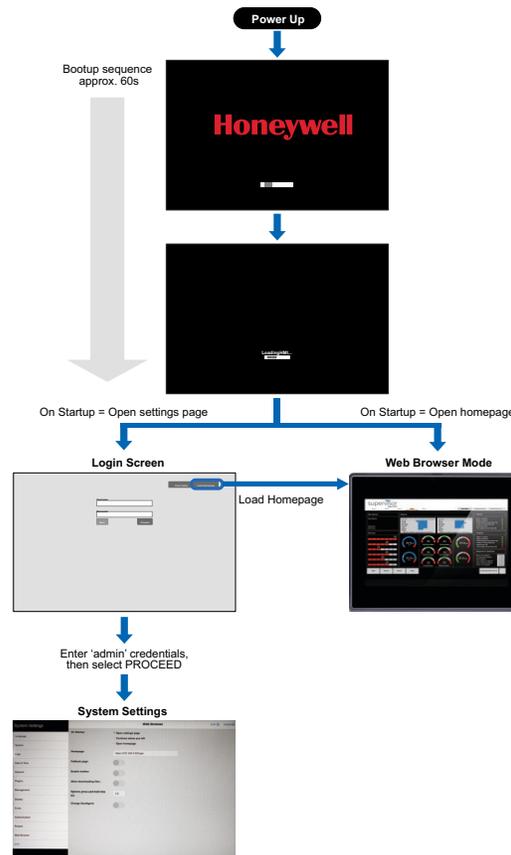
Fig. 3 User Interface Overview

Virtual Keyboard

Touching any input box (e.g., Username) will display a virtual keyboard on the lower half of the screen.

Fig. 4 Virtual Keyboard

The default keyboard layout is American English. If required, this can be changed to another layout using the Localisation options in the System Settings screen. Available keyboard layouts are English, Italian, German, French, Spanish.

Touch Gesture Control

The display with capacitive touch screen supports the following single and multi–touch gestures:

Displays with resistive touch screen do not support this feature.

Table 1 Touch Gesture Control

Function	Gesture	Description
Zoom In (scale up)	Splay or spread	Touch surface with two or five fingers and move them apart.
Zoom In (scale up)	Pinch or Squeeze	Touch surface with two or five fingers and bring them closer together.
Scroll	Flick	Quickly brush the screen with fingertip in the direction you want to scroll
Go to Next or Previous screen	Drag Right	In an empty area of the screen, move fingertip to the right without losing contact.

4 ACCESSING THE SYSTEM SETTINGS SCREEN

Basic set up of the touchscreen monitor is achieved using the System Settings screen. This screen can be accessed in various ways, depending on how the touch-screen monitor is configured.

From Login Screen

The system settings menu is entered after powering on the device and entering valid credentials "Username" and "Password" into the login.

Fig. 5 System Settings

Step 1.   Enter your 'admin' credentials.

Step 2.   Select Proceed. The System Settings (Web Browser) screen will be displayed.
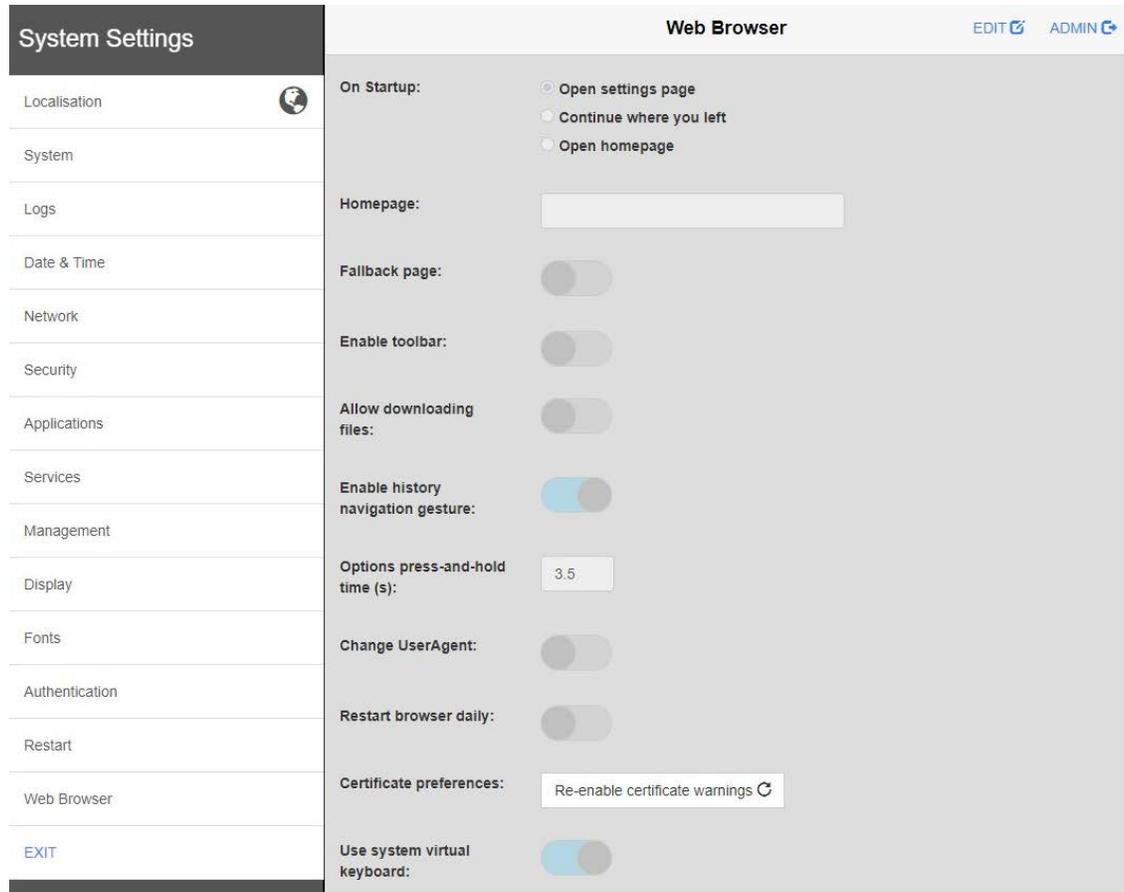
Fig. 6 System Settings

If Web-Application is displayed on the Web Browser

To access System Settings from the Web Browser (homepage) mode:

If the toolbar option is enabled on the Web Browser:

Step 1.   Select the toolbar tab at the top of the screen.

Step 2.   Select the gear wheel icon on the right side of the toolbar.

Step 3.   The Login screen will be displayed.

Step 4.   Enter your 'admin' credentials.

Step 5.   Select Proceed. The System Settings (Web Browser) screen will be displayed.

If the toolbar option is not enabled on the Web-Browser:

Step 1.   Touch and hold the top left corner of the screen for at least 5 seconds.

Step 2.   The Login screen will be displayed.
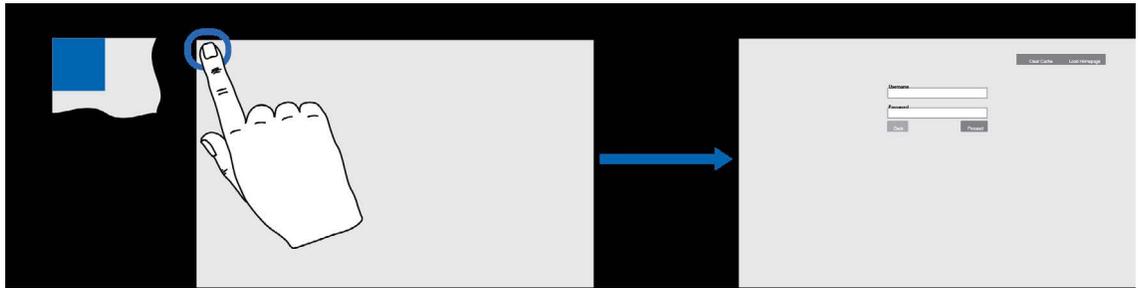
Fig. 7 Login screen

Step 3.   Enter your 'admin' credentials.

Step 4.   Select Proceed. The **System Settings** (Web Browser) screen will be displayed.

Note: *The login screen may take up to 30 seconds to appear. The duration of the touch and hold required can be set to a different time using the 'Options press and hold time' parameter.*
System Settings can also be accessed from the Default Mode Menu.

Tap-Tap Access Mode

In the event that the touchscreen monitor fails to start in the normal way (e.g., due to an installation/ configuration error) the following procedure can be used to navigate to:

• System Settings screen

• Runtime Loader screen / Installation of Chromium

• Config OS mode

To enter the system settings with Tap-Tap, repeatedly 'tap' the screen after power on the touchscreen monitor until the touchscreen monitor shows 'TAP-TAP DETECTED.
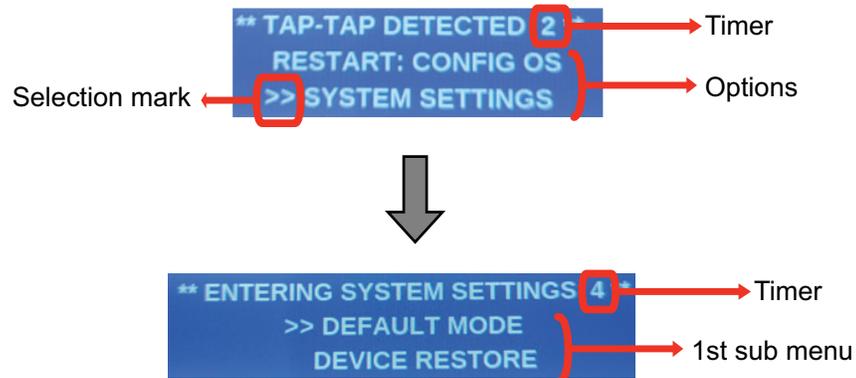
Fig. 8 Tap-Tap Access Mode

- On the right side of the top line there will be a timer visible which will decrease to 0.
- While the countdown is running, it is possible to select different options by pressing to the screen.
- The line marked with >> is the selected option.
- When the timer reaches the value 0, then the selected option will be executed.

The different selectable options are:

For touchscreen monitors with capacitive touchscreen

Table 2   System settings screen for touchscreen monitors with capacitive touchscreen

Main Menu	1st sub menu	Action	See chapter
RESTART: CONFIG OS		Access to system settings in recovery mode	Tap-Tap Menu Restart: Config OS
SYSTEM SETTINGS	DEFAULT MODE	Selection of:	System Setting
	DEVICE RESTORE	Restore the display to factory default Reset password	Tap-Tap Menu System Settings: Device Restore
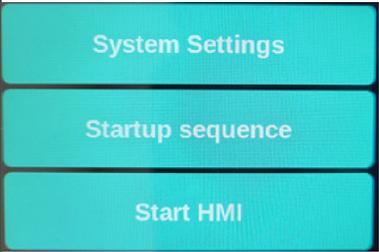
For touchscreen monitors with resistive touchscreen

Table 3   System settings screen for touchscreen monitors with resistive touchscreen

Main Menu	1st sub menu	Action	See chapter
RESTART: CONFIG OS		Access to system settings in recovery mode	Tap-Tap Menu Restart: Config OS

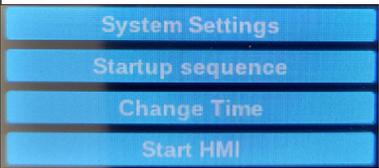| Main Menu	1st sub menu	Action	See chapter
SYSTEM SETTINGS	DEFAULT MODE	Selection of: System Settings Startup sequence Change Time Start HMI	System Setting
	TOUCHRSEEN CALIBRATION	Touch screen calibration	Tap-Tap Menu System Settings: Device Restore
	If display is not touched for 5 seconds		
	DEVICE RESTORE	Restore the display to factory default Reset password	Tap-Tap Menu System Settings: Device Restore

Note: *The menu Start HMI is only displayed if Chromium is installed on the touchscreen monitor.*

Tap-Tap Menu Restart: Config OS

The display has 2 operating systems:

MainOS – the main operating system, loaded when the display starts in "normal" conditions.

ConfigOS – the recovery operating system, the main scope is to have a fallback in case the MainOS for any reason cannot start, similar as the recovery mode on PC operating systems.

The configuration settings information, displayed on the ConfigOS, are not the same on MainOS. The Network information displayed on ConfigOS, are not valid.

Note: *System settings should only be modified on MainOS, do not modify system settings on ConfigOS.*

The Tap–Tap Menu point Restart: Config OS will restart the display with ConfigOS recovery operation system and allow the user to enter in the System Settings screen and for example update the MainOS.

If the system settings menu was accessed with Tap-Tap option 'RESTART: CONFIG OS' then on the system settings screen the information 'Recovery Mode' will be displayed on the left side below the System Settings and all right–hand side infor-mation will be displayed in a light red color.
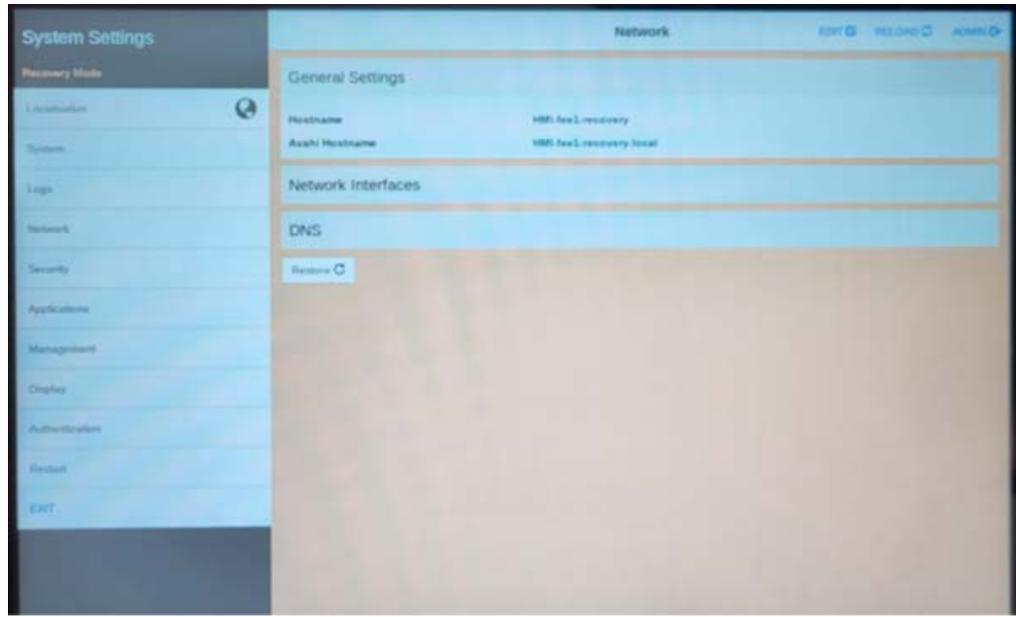
Fig. 9 Tap-Tap Menu Restart

Tap-Tap Menu System Settings: Default Mode

System Settings: Access to the system settings in MainOS mode, allow update Applications like Chromium.

Startup Sequence: Access to the system settings in MainOS mode, allow update Applications like Chromium.

Start HMI: Start the display in the same way as on power cycle of the display.

Change Time: Enter the system settings, allow to update Time.

Tap-Tap Menu System Settings: Device Restore

Device restore procedure resets all the settings in the device to factory default and deletes all configuration items and all customer data on the device, except installed firmware and application updates.

The user defined password for the user 'admin' will be reset to the default pass-word.

On displays with SB78 BSP's, Chromium will not be deleted.

On displays with UN60 and UN65 BSP's, Chromium will be deleted, and it is needed to re-install Chromium on the display.

Tap-Tap Menu System Settings: Touchscreen Calibration

Allows to re-calibrate the touchscreen

5 SYSTEM SETTING

System Settings Appearance

The main topics of configuration are listed on the left side of the system settings screen.

The System Settings screen comprises a menu with each menu option displaying a settings page.

On 10.1", 15.6" and 21.5" displays the menu and settings appear on the same screen.
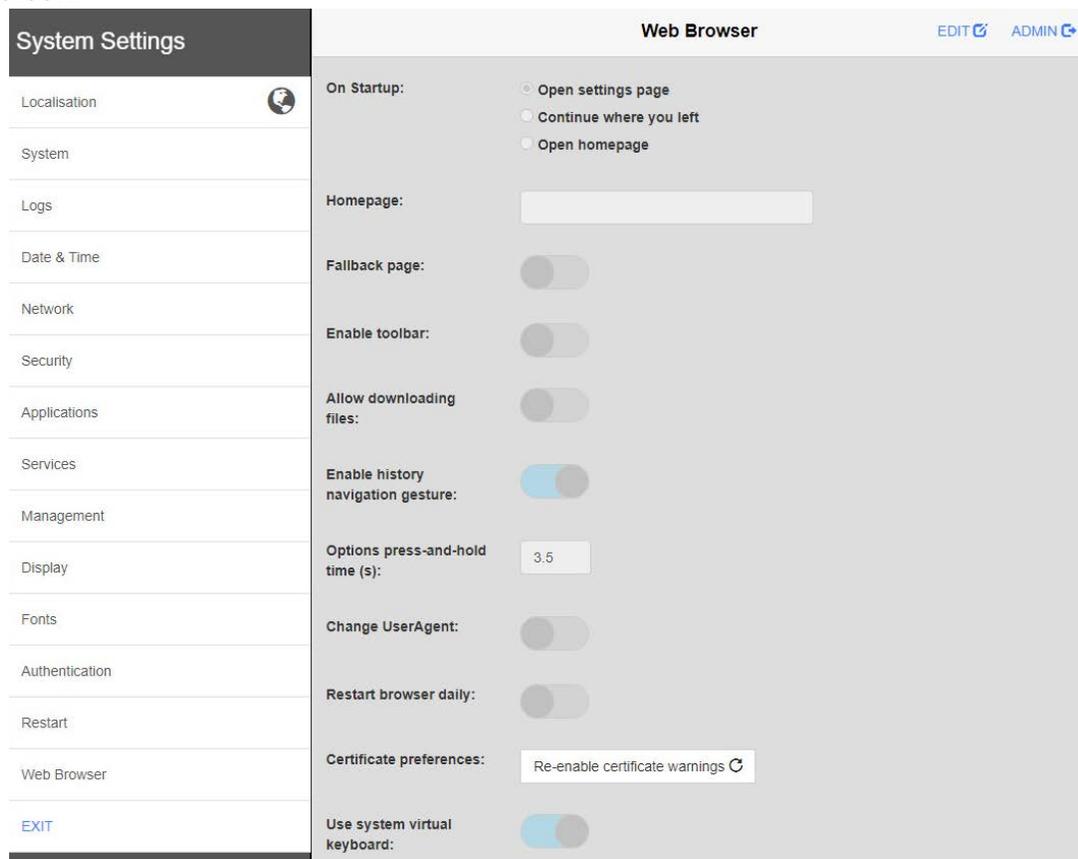
Fig. 10 System Settings

On the 4.3"and 7" touchscreen monitors the menu is displayed separately – select-
ing a menu option then shows the settings page:

MENU

Menu   Settings Pages
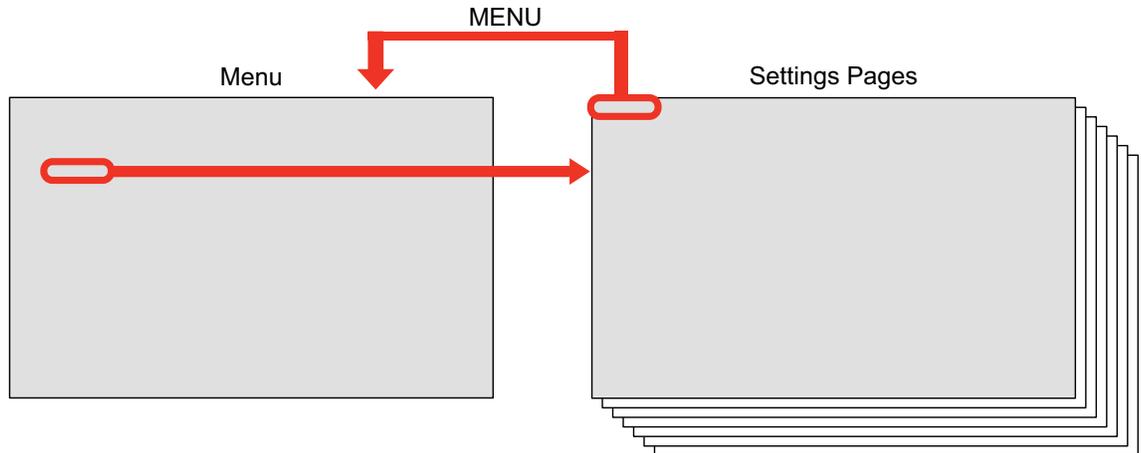
Fig. 11 Settings page

Selecting **MENU** or the **HOME** icon on a settings page returns to the menu.

EDIT Button

To make changes on some settings pages you must first select the EDIT button
located in the top right corner of the screen. You will then be able to make changes
to the various parameters. To save the new settings select the SAVE button at the
top of screen or

CANCEL to exit edit mode without saving any changes.

ADMIN Button

Pressing the ADMIN button or the EXIT icon (located in the top right corner of the
screen) will leave System Settings and return to the Login Screen.

RELOAD Button

Pressing the RELOAD button (located in the top right corner of the screen) will
reload the page.

System Settings Menu

The System Settings menu provides access to the following:

Table 4 System Settings menu

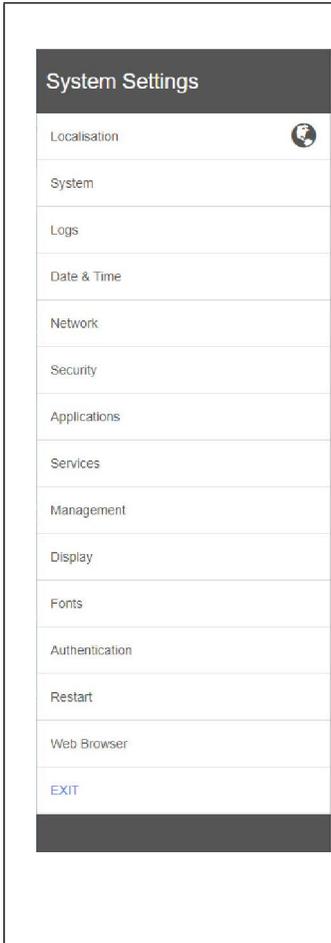|	WEB BROWSER	
	Localisation	Setup the language of the device
	System	System information, Status and Timers
	Logs	Configure log file generation
	Date & Time	Configure the date and time of the device
	Network	Configure the network settings of the Ethernet interfaces
	Security	Import/Export Credentials; Enable/Disable USB ports
	Applications*	Add/remove or update Chromium
	Services	Use to enable the network bridge
	Management	Firmware updates and basic FW and booter configurations
	Display	Display setup includes colors, timeouts, touch-screen calibration, rendering technique (G2D acceleration, SB78 devices only), and more.
	Fonts	Use to install additional fonts.
	Authentication	Change passwords or create SSL certificates
	Restart	Restart the main or config OS
	Web Browser**	Configure the web browser properties like home page
	EXIT	Close the system settings view

*Applications menu is only visible:

- If BSP version is at least SB78 2.1.94 / UN60 3.1.120 / UN65 3.1.120
- If the system settings have been accessed with the tap-tap function and system settings or startup sequence

**Services menu is only visible on touchscreen monitors with BSP SB78.

***Web Browser menu is not visible if the system settings have been accessed with the tap-tap function and system settings or startup sequence.

****By The USB is disabled by standard in touchscreen monitors produced as of June 2024. However, with a firmware update, the USB Port can be enabled.

Localisation

Use this to change the language used for the text in the System Settings screen only. Select the required language from the listed options.

- **County Code**: Select from the listed options. Required for WLAN regulatory domain.
- **System keyboard layout**: Use this option to change the layout of the virtual keyboard according to the required language (see "Virtual Keyboard"). The default keyboard layout is English.

Localisation	ADMIN
Language:	
☑	English
	Italiano
	Deutsch
	Français
	简体中文
	繁體中文
	한국어
	日本語
	Español
	Português - Brasileiro
	Русский

Country Code:
(REQUIRED for WLAN Regulatory Domain)   00 Unspecified

System keyboard layout: English (United States)

Fig. 12 Localisation

Note: *The "Localisation" option does not affect the language of any other web browser content.*

System

Displays general information about the touchscreen monitor, memory, and processor status, plus device timers.

Parameter	Description
Info	Provide below Device information like: • Kernel version • Serial number • Build date • Hardware code • Compatibility code • Total available RAM
Status	Provides below device status: • Free RAM • Uptime • Average CPU Usage
Timers	Provides device "Timers" information like: • **System on**: Shows how many hours the touchscreen monitor has been powered. • **Backlight on**: Shows how many hours the touchscreen monitor backlight has been powered.

Logs

The touchscreen monitor maintains a log file of bootup operations which can be useful during troubleshooting. This page defines how the log file is managed and enables the file to be saved and exported.

• **Persistent log**:

When OFF the log file is cleared after a power reset.

When ON the log file is saved after a power reset.

Note: *The log file manager cyclically fills 3 files of 4MB*

• **Save**: Enables the log file(s) to be saved. Example, to an external USB device

Note: *Log file entries are timestamped with the touchscreen monitors date and time settings.*

To download the log files:

Step 1.   Access the **System Settings** screen. Then, select **Logs**.

Step 2.   Select **Save**. The file system screen is displayed.

Step 3.   Insert a USB memory stick into one of the USB ports of the touchscreen monitor.

Step 4.   Select the USB device (example: usbmemory).

Step 5.   Select **Save**. This will save a file called 'logs.tar.gz' to the USB device.

Note: *The files are downloaded in a compressed format and will require a decompression tool (e.g. 7-Zip) in order to view the files.*

To view the log files:

Step 1.   Access the USB device on a PC and navigate to the 'logs.tar.gz' file.

Step 2.   Using a suitable tool (example 7-Zip) open the file to reveal a file called 'logs.tar'.

Step 3.   Open the 'logs.tar' file to view details and contents.

Date & Time

Provides access to the touchscreen monitor date and time and to set up NTP oper–ation if required. Currently, the touchscreen monitor only makes use of date and time settings to provide an accurate timestamp to entries in the log files.

Table 5   Date & Time

Parameter	Description
Current Timezone	Choose the required country/time zone from the displayed options.
Current Date	Set the onboard date
Local Time	Sets the onboard clock (24–hour)
Automatic Update (NTP)	When enabled, use to specify the address of an NTP server.
Accept NTP requests	When enabled the date and time will be synchronized to the remote NTP server.

Network

This option enables network parameters to be viewed and changed. The following parameters are available in edit mode:

Table 6   Network

Parameter	Description
General Settings	Device hostname Avahi Hostname

Table 6   Network

| Parameter	Description
Network Interface	Network parameters of the available interfaces • Name (eth0, eth1 or eth2) • Label (WAN, LAN1 or LAN2) • MAC Address • DHCP (enabled or disabled) • Address – current IP address • Netmask – current subnet mask • Gateway – network gateway IP address • Bridged – network bridge address
DNS	DNS Servers Displays a list of DNS server addresses. These will be provided automatically when DHCP is enabled, but can be added or removed manually when DHCP is disabled Search Domains Optional domain(s) that will be used in conjunction with a provided hostname to create an FQDN (fully qualified domain name)..

By default, all network interfaces are configured for DHCP. The ETH0 (which is located right next to the power connector) is configured as WAN port and should be used to provide the connection to the required web server.

Note: *The touchscreen monitor has an internal firewall which blocks all incoming network traffic. However, ICMP 'ping' requests are permitted in order to test the network connectivity.*

Once connected to the network, as long as a DHCP server is running, an IP Address, Subnet Mask and Default Gateway will automatically be assigned by the DHCP server. If the network does not support DHCP, or you wish to configure a static IP Address, follow the procedure below.

If no DHCP server is available or cannot be used on site, the configuration can be changed to static IP configuration.

Select **Network**. The **Network** settings are displayed.
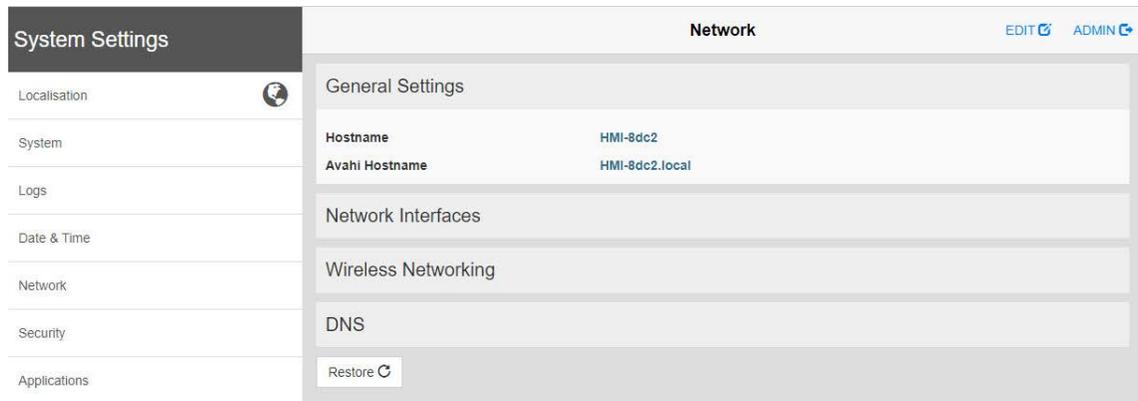
Fig. 13 Network settings

Select Network Interfaces to view the current settings.

Fig. 14 Network Interfaces

Select EDIT on the top right of the screen. Change the IP settings as required: To disable DHCP use the DHCP switch.

Fig. 15 Network Interfaces current setting

This will allow you to manually enter the required IP address (**Address**) subnet mask (**Netmask**) and default router (**Gateway**) as required.
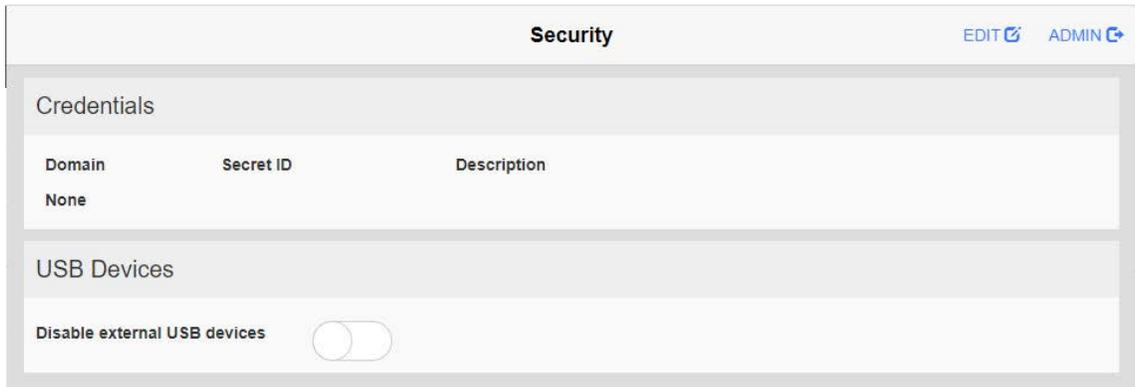

Fig. 16 Network Interfaces

After you press save the manually entered IP address will be used for the device.

Select **SAVE** at the top of the screen.

Security

Import/Export Credentials; Enable/Disable USB ports.
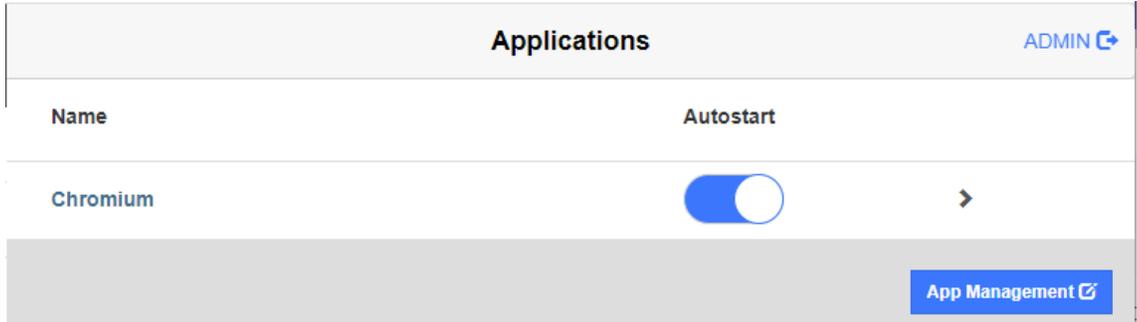

Fig. 17 Security Page

Note: *Make sure that the **USB Device** option is off. Supported devices include USB computer keyboards, USB computer mouse, and USB memory sticks.*

Applications

Add or remove App's from the touchscreen monitor.

This option is used to update Chromium on the touchscreen monitor.

To update Chromium, see section Updating the Chromium Application.

Fig. 18 Applications

Note: *Application menu is only visible:*

- If BSP version is at least SB78 2.1.94 / UN60 3.1.120 / UN65 3.1.120.
- If the system settings have been accessed with the tap–tap function.

Services

This screen allows the Bridge and Switch Service to be enabled and configured. Using this service, it is possible to connect together the primary WAN (eth0) network adapter with the secondary network interfaces (eth1 and eth2).

When enabled, the secondary interfaces (eth1 and eth2) share the same IP address as eth0, and any devices connected to eth1 and eth2 behave as though were directly connected to eth0.

- Enabled: Off (default), On (default).
- Type: SW Bridge (br0) is the default and only option.
- Network Interfaces: eth0, eth1, eth2 – select which Ethernet ports are active.

Note: *Services menu is only visible on displays with BSP SB78.*

Plugins

Not used.

Restore the device from USB.

Management

Enables the touchscreen monitor system components to be viewed, downloaded, and updated. Certain operations will require the Touchscreen Monitor to be booted into Config OS mode first.

Caution: **Do not change any settings on this screen unless you have been specifically asked to do so by Technical Support. Incorrect configuration in this area may result in failure of the Touchscreen Monitor to operate properly.**

Caution: **Working in the Management area is a critical operation and, when not performed correctly, may cause product damage requiring service of the product. Contact technical support for assistance.**
Use the "Clear" command inside the "Data" section to remove HMI Runtime from the device Factory Restore.

Display

Enables various characteristics of the touchscreen monitor to be changed.

Fig. 19 Display Settings

Table 7   Display Settings

Parameter	Description
Brightness	Adjust the backlight level between '0' (minimum) and '10' (maximum) by touching a position along the Brightness bar or by using the + or – buttons.
Back light timeout	Adjust the backlight timeout period between 'always on' and '60 minutes' (in 1 minute intervals) by touching a position along the Backlight timeout bar or by using the + or – buttons.
Orientation	If required, select a different Orientation from the displayed options. **Note:** *Changing the orientation will ask you to confirm the new setting and will require the touchscreen monitor to reboot before the new orientation to take effect.*
Display Hue*	Show and modify the hue setting of the touchscreen monitor.

Table 7 Display Settings

Parameter	Description
Display White Balance*	Show and modify the white balance setting of the touchscreen monitor.
Display Color Saturation*	Show and modify the color saturation setting of the touchscreen monitor.
Touch Calibration	Only on display with resistive touch screen.
G2D acceleration**	Rendering technique (2D graphic acceleration) handled by the processor. Disabling the acceleration and changing the rendering technique can help resolve any unusual graphics behavior.

*Only on Touchscreen Monitor with UN60, UN65 BSP

**Only applicable to SB78 devices.

Fonts

Lists the fonts installed on the Touchscreen Monitor and allows other fonts to be installed.

System Fonts:

This area lists all fonts that are included as standard - these cannot be removed.

Custom Fonts:

Show any user-installed fonts. You can install or remove new fonts from here.

Install additional fonts

The Touchscreen Monitor ships with a number of fonts as standard. If the web pages that it will access contain different fonts, then the Touchscreen Monitor will attempt to find 'best match' substitutes using its own font library.

In some cases, this may result in web pages not being displayed as expected. It is, therefore, possible to upload specific font files to the Web Panel from a USB memory stick. Typically, these will come as True type (*.ttf) files which can be copied from a PC or device hosting the web pages.

Step 1.   Select (+ sign) to add a new font. The following dialogue box is displayed.

Fig. 20 Install additional fonts

Step 2.   Select Browse. The following screen is displayed.
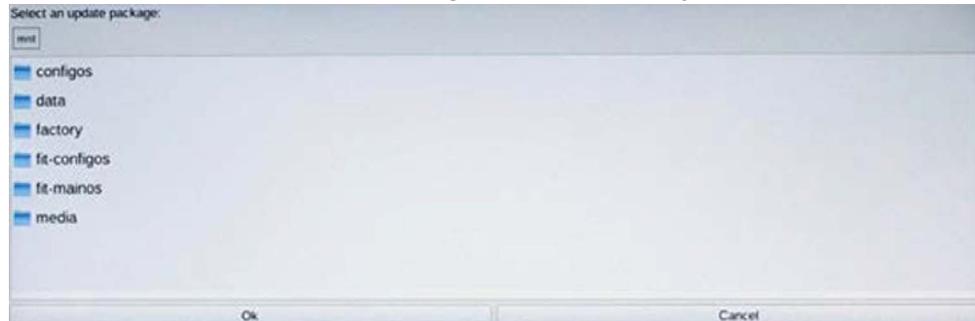
Fig. 21 Select an update package

Step 3.   Insert a USB memory stick (containing the required font(s)) into one of the USB ports on the lower edge of the Touchscreen Monitor and wait for the device name (e.g.,usbmemory) to appear on the screen.

Step 4.   Double tap the USB device name.

Step 5.   Locate the required font file and select it.

Step 6.   Select Ok. The following screen will be displayed.
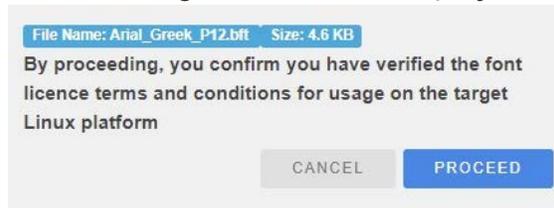
Fig. 22 Selected font

Step 7.   Select PROCEED. The selected font will now be installed on touchscreen monitor.

Note: *Each style of font (e.g., regular, bold, italic, bold italic, etc.) requires a separate font file.*

Step 8.   Unplug the USB device when it is finished.

To remove a custom font

1. Access the System Settings screen.

2. Select Fonts.

3. Select Custom Fonts to view a list of any additional installed fonts.

4. Locate and select the font to be removed.

5. Select (– sign).

6. When prompted to delete the selected font, select OK.

Authentication

Enables login passwords to be changed and to manage x.509 security certificates Users.

In view mode, this shows the currently signed in user. You can export a copy of the certificate or import your certificate.
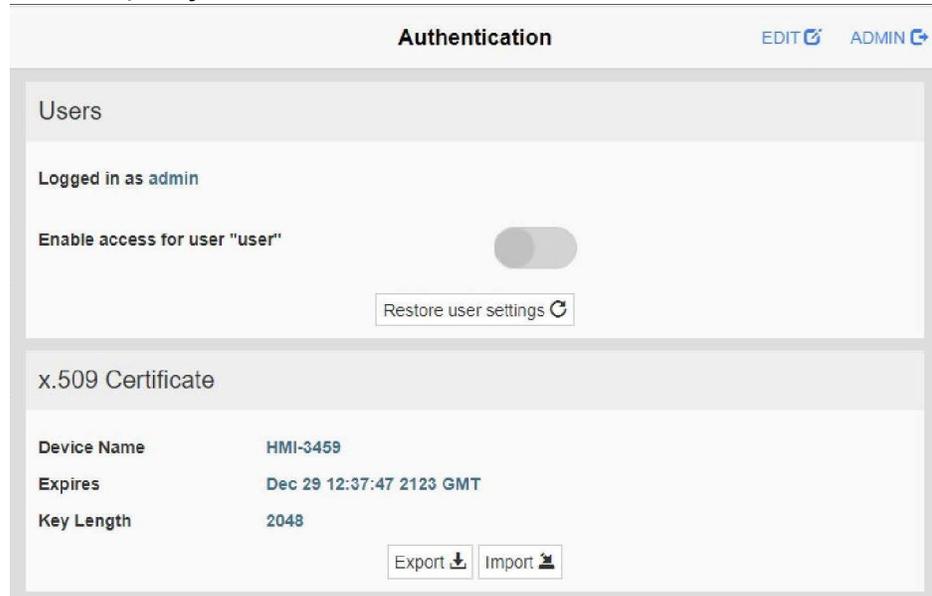
Fig. 23 Authentication

The Export button allows you to export a copy of the certificate installed on the touchscreen monitor (.crt) or a Certificate signing request (.csr) to be submitted to the Certificate Authority (CA) to be verified and signed.


Fig. 24   Export button

In edit mode, it allows a new password to be set up for each user x.509 Certificate.

Typically, you will need to create and export a root certificate from the Supervisor, export this (as a .pem or crt file) and import it into the touchscreen monitor.

Install x.509 Certificate

Step 1.   Navigate to System Setting > Authentication.

Step 2.   Select the EDIT button located in the upper-right corner of the screen.
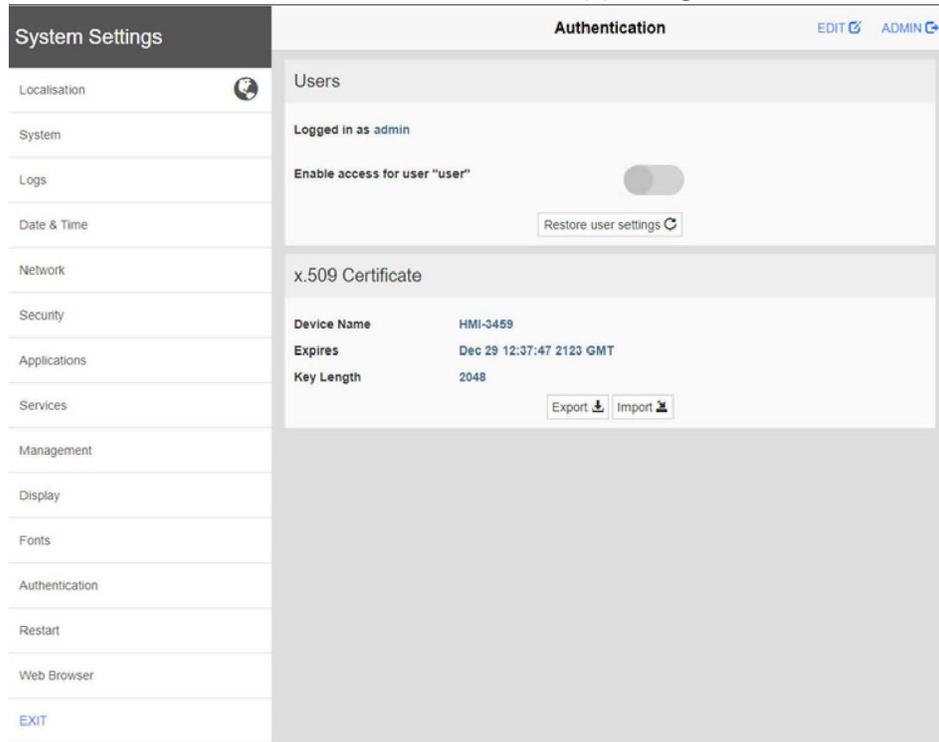
Fig. 25 System settings

Step 3.   Enter the required details.

Fig. 26 x.509 Certificate

Step 4.   Click Generate.

Step 5.   To save the new settings, select the SAVE button at the top of the screen.

Restart

Enables the touchscreen monitor to be restarted in either of the following modes:

- **Config OS**: Select to restart the touchscreen monitor in special configuration mode. Do not use this mode unless requested by Technical Support.
- **Main OS**: Select to restart the touchscreen monitor as it would normally behave on power up.

Web Browser

Configure the behavior and display options for the touchscreen monitor.
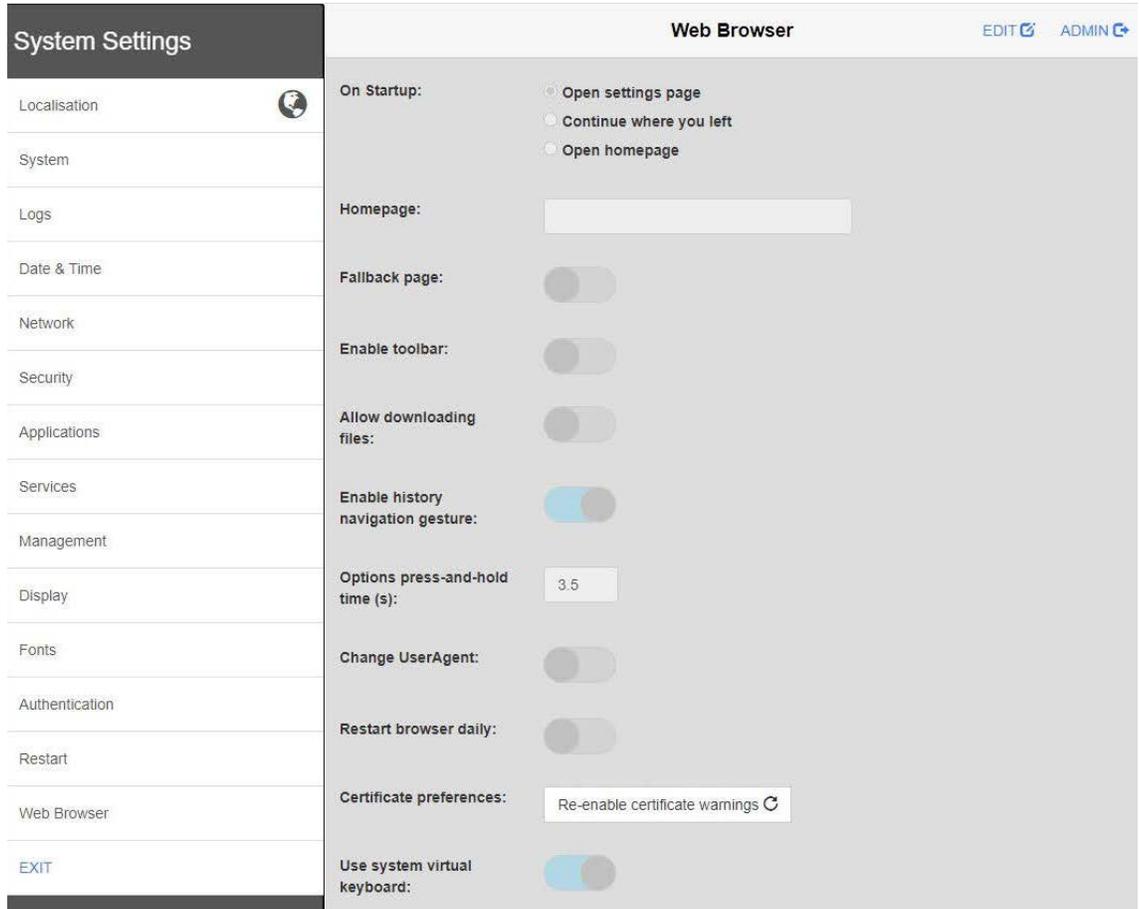
Fig. 27 Web Browser

To change the web Browser configuration, press the EDIT button on the right top on the page.

Table 8   Web browser configuration

Parameter	Description
On Startup	Defines the behaviour of the HMI panel on power up or following a restart. This can be set one of the following: – Open settings page: The login page is displayed. After a successful login, the System Settings screen is displayed. - Continue where you left: Option not supported. - Open homepage: The specified Homepage is displayed. The HMI panel login page does not appear. **IMPORTANT**: Once the touchscreen monitor is rebooted with this option selected, you will only be able to change the Web Browser settings using the methods described in Accessing the System Settings Screen"
Homepage	The primary web page to be displayed when On Startup – Open Homepage is selected, or when Load Homepage is selected from the login screen. This must include 'http://' or 'https://' at the start and include the IP address or hostname of the target device and the web-page name. For example: https://192.168.0.85/start.htm
Fallback page	If enabled, this allows a secondary webpage to be specified which will be displayed if the Homepage is unavailable.
Enable form autofill	Enable autofill of forms with information already entered previously
Enable toolbar	If enabled, this displays a toolbar along the top edge of the touchscreen monitor, providing access to the login screen or allowing a different web page to be entered. The following options are also available when the toolbar is enabled: • Show toolbar only on error: If enabled, the toolbar will only be displayed if there is a problem displaying the specified Homepage or Fallback page. • Show history buttons: Not supported. • Show loading controls: Not supported. **Hint**: While you are commissioning it is recommended that you select the Enable toolbar option. This will allow you to navigate to another web address or access the System Settings screen easily.
Allow downloading files	Not supported.
Enable history navigation gesture	Navigate back and forward with a swiped gesture.
Options press-and-hold time (s)	Sets how long you need to touch and hold the top left corner of the screen to access the System Settings from the Web Browser.
Change User Agent	If enabled, a user agent can be specified (e.g., Android) to ensure the Homepage is displayed correctly.

Table 8   Web browser configuration

Parameter	Description
Restart browser daily	Allow to restart the browser panel daily on a pre-defined time.
Certificates	Manage HTTPS/SSL certificates and settings. (Description given in chrome).
Certificates preferences	Re-enable certificate warnings if previously disabled
Use system virtual keyboard	Enables or disables the onscreen virtual keyboard. Once the "Virtual keyboard" option is disabled, the only way to enter text will be by using a keyboard connected to one of the HMI panel USB ports.
Enable password management	Enable autofill of forms with information already entered previously. When enabled, the web browser will prompt the user to save any passwords entered for the connected site. The next time that the user accesses the site the touchscreen monitor will auto fill the saved password. Changing this setting requires a restart.

Exit

Leaves the System Settings screen and returns to the Login screen.

FIRMWARE AND CHROMIUM UPDATES

Always ensure that all components of the system run the latest firmware and software components. See Firmware and Chromium Updates section.

The product has three firmware elements and Chromium that can be updated.

• Firmware: Bootloader, MainOS and ConfigOS (Recovery OS).

• Bootloader: Bootloader firmware's main function is to initialize the hardware and then to boot (load and execute) the MainOS or ConfigOS operating system.

• MainOS: the main operating system, loaded when the display starts in "normal" conditions.

• ConfigOS: the recovery operating system, the main scope is to have a fallback in case the MainOS for any reason cannot start, similar as the recovery mode on PC operating systems. Application, the Chromium Browser.

Always ensure that the latest BSP and Application is installed on the touchscreen monitor.

Caution: **Working in the Management area is a critical operation and, when not performed correctly, may cause product damage requiring service of the product.**

Do not turn off the device while a system component is being upgraded. Always follow the upgrade sequence below to ensure a touchscreen monitor is fully updated to the latest firmware and application.

There are different hardware types of panels and therefore different firmware packages. Make sure the downloaded package is for the correct device model.

Table 9 Display and BSP Types used

SKU	Display size (inch)	Touch screen	BSP type
WEB-HMI4/C	4.3	Resistive	UN60
HMI-05C11WL0	5	Capacitive	SB78
HMI-07C11WL0	7	Capacitive	SB78
HMI-10C11WL0	10.1	Capacitive	SB78

Table 9 Display and BSP Types used

SKU	Display size (inch)	Touch screen	BSP type
HMI–15C11WL0	15.6	Capacitive	SB78
WEB–HMI7/C	7	Resistive	UN65
WEB–HMI7/CF	7	Capacitive	SB78
WEB–HMI10/CF	10.1	Capacitive	SB78
WEB–HMI15/CF	15.6	Capacitive	SB78
WEB–HMI21/CF	21.5	Capacitive	SB78
WEB–HMI7/CX	7	Capacitive	UN65
WEB–HMI10/CX	21.5	Capacitive	UN65
WEB–HMI15/C	10.1	Capacitive	UN65
WEB–HMI21/C	21.5	Capacitive	UN65

To upgrade the display firmware:

Step 1.   To avoid any dependency issues, download all latest images for the touchscreen monitor from buildings.honeywell.com.

For devices with SB78 BSP's:

Sb78–xxxx–bootloader–xxxx (.img, .md5)

Sb78–xxxx–configos–xxxx (.img, .md5)

Sb78–xxxx–mainos–xxxx (.img, .md5)

chromium–container–xxxx.zip

For devices with UN60 BSP's

un60–xxxx–bootloader–xxxx (.gz, .md5)

un60–xxxx–configos–xxxx (.gz, .md5)

un60–xxxx–mainos–xxxx (.gz, .md5)

chromium–container–xxxx.zip

For devices with UN65 BSP's.

un65–xxxx–bootloader–xxxx (.gz, .md5)

un65–xxxx–configos–xxxx (.gz, .md5)

un65–xxxx–mainos–xxxx (.gz, .md5)

chromium–container–xxxx.zip

Step 2.   Copy the files which fit your displays (SB78, UN60 or UN65) to a FAT32 formatted storage device, e.g., USB memory stick or memory card, for transfer to the touchscreen monitor.

Step 3.   Insert the storage device into the touchscreen monitor.

Note: *If the USB port has been previously disabled, it will require re-enabling in the displays 'Security' settings before any USB storage devices can be inserted.*

Updating Bootloader, Config OS, and Main OS BSP's.

It is recommended to update the ConfigOS by accessing the system settings over the MainOS mode and to update the MainOS by accessing the system settings over the ConfigOS mode.

The Bootloader can be updated either in MainOS or ConfigOS mode.

The access to the system settings on MainOS mode is described on the chapter From Login Screen, If Web-Application is displayed on the Web Browser and Tap-Tap Menu System Settings: Default Model, the access to the ConfigOS mode system settings on the chapter Tap-Tap Menu Restart: Config OS.

Step 1.   Access the touchscreen monitor system settings.

Step 2.   Select the Management options to install the bootloader / Config OS / Main OS updates in sequence.

Update the bootloader:

Step 1.   Scroll down to the Bootloader section.

Step 2.   Check the version to see if it requires updating.
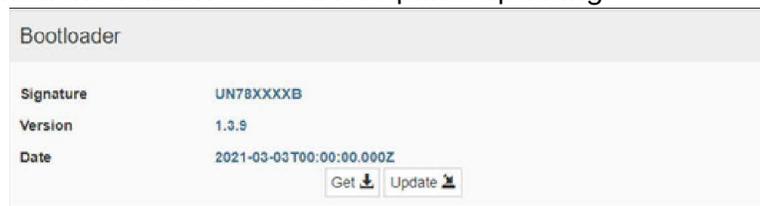
Fig. 28 Bootloader

Step 3.   If the installed version is older than the update, select the Update option.

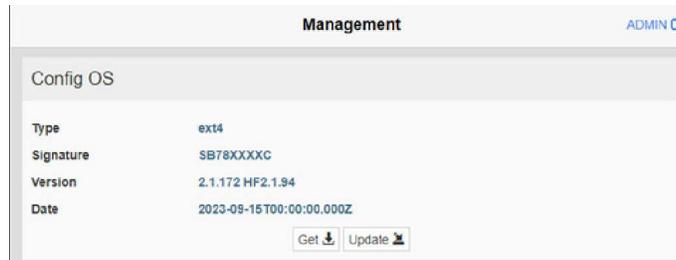Step 4.   Select Browse Image to navigate to the storage device connected in step 3 above.
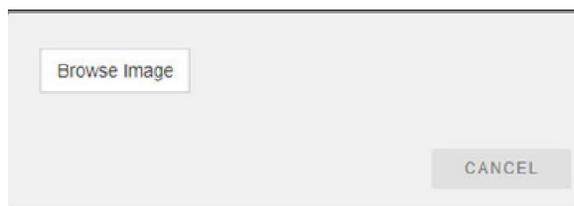
Fig. 29 Select Browse Image

Step 5.   Select the Sb78-xxxx-bootloader-xxxx.img / un60/65-xxxx-bootloader-xxxx.gz file.

Step 6.   Follow the on-screen prompts to install the upgrade (a reboot may be required).

Step 7.   Confirm the upgrade is successful by re-checking the version shown in 2 above.

Update Config OS:

Step 1.   Enter into the system settings in the MainOS mode.

Step 2.   Select the Config OS section.

Step 3.   Check the version to see if it requires updating.

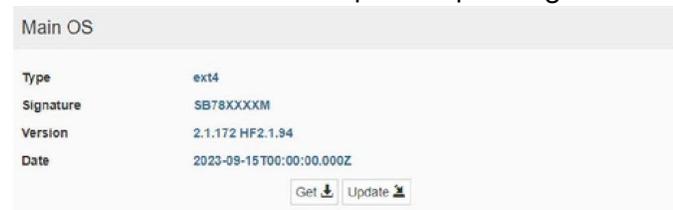

Fig. 30 Update Config OS

Step 4.   If the installed version is older than the update, select the Update option.

Step 5.   Select Browse Image to navigate to the storage device connected in step 3 above.

Step 6.   Select the Sb78-xxxx-configos-xxxx.img / un60/65-xxxx-configos-xxxx.gz file.

Step 7.   Follow the on-screen prompts to install the upgrade (a reboot may be required).

Step 8.   Confirm the upgrade is successful by re-checking the version shown in 2 above.

Update Main OS:

Step 1.   Enter into the system settings in the ConfigOS mode

Step 2.   Select the Main OS section.

Step 3.   Check the version to see if it requires updating

Fig. 31 Update Main OS

Step 4.   If the installed version is older than the update, select the Update option.

Step 5.   Select Browse Image to navigate to the storage device connected in step 3 above.
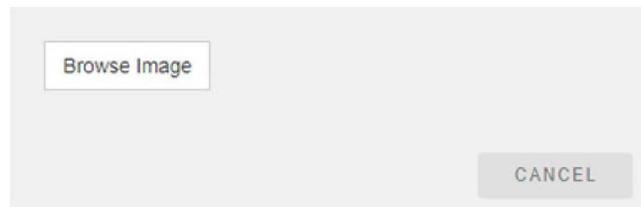
Fig. 32 Update Main OS

Step 6.   Select the Sb78-xxxx-mainos-xxxx.img un60/65-xxxx-mainos-xxxx.gz file.

Step 7.   Follow the on-screen prompts to install the upgrade (a reboot may be required).

Step 8.   Confirm the upgrade is successful by re-checking the version shown in 2 above.

Updating the Chromium Application

The update of chromium has slightly changed on newer BSP versions.

For BSP version sb78 2.1.94, UN60 3.1.120, UN65 3.1.120 or newer, the update is done on the system settings menu, menu point Applications.

For BSP version older than sb78 2.1.94, UN60 3.1.120, UN65 3.1.120 the update was done on a dedicated window.

Step 1.   Put the new application file chromium-container-xxxx.zip into the root directory of a FAT32 formatted USB Stick and plug the USB Stick into the display.
The chromium-container-xxxx.zip has to fit the BSP type and is distributed together with the BSP's package.

Step 2.   Boot into System Settings.

   a.   Power cycle the device
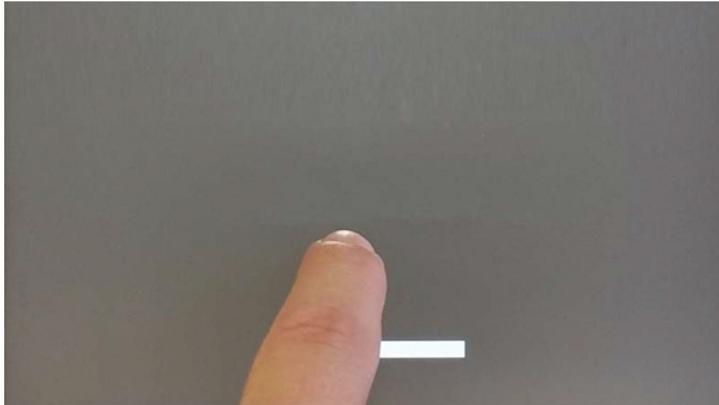
Fig. 33 System Settings

   b.   Keep tapping the touch screen until "TAP-TAP DETECTED" appears on the top of the screen.

c. Remove the finger from the touch screen. The ">>" is pointing to "SYSTEM SETTINGS

Fig. 34 System Settings

d. Wait 5 seconds until "** ENTERING SYSTEM SETTINGS **"

e. Do not touch the screen. The ">>" is pointing to "DEFAULT MODE"

f. Wait until the product boots into "System Settings"

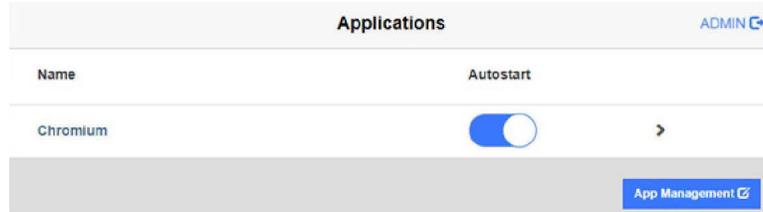Step 3. Press the "Startup Sequence" button.
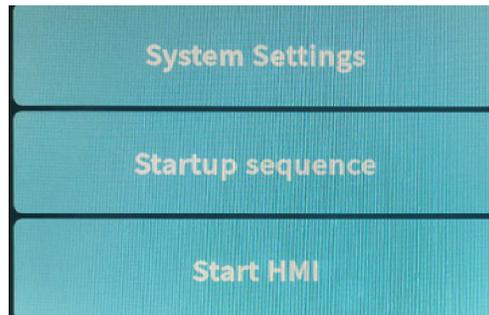
Fig. 35 System Settings

Step 4. Authentication with admin users.

For new BSP's

For BSP version sb78 2.1.94, UN60 3.1.120, UN65 3.1.120 or newer:

On the System Settings select Applications:

a. Select the App Management button.

Fig. 36 Applications

b. Check the version of Chromium to see if it requires updating.
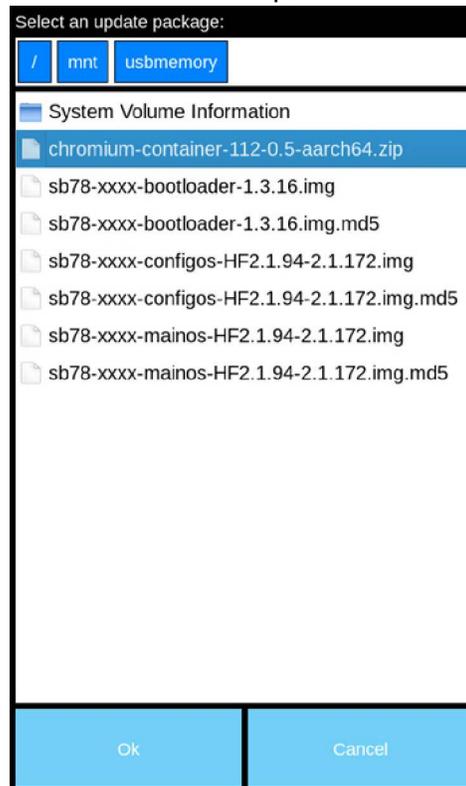

Fig. 37 App Management

c. Select the Install / Update+ button.

d. Select Browse Image to navigate to the storage device connected in step 1 above.
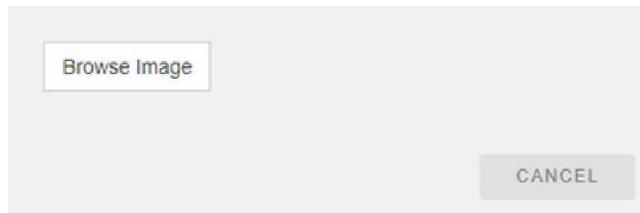
Fig. 38 Browse Image

e. Browse to "/mnt/usbmemory" location and select the image to install
the respective file (un60-chromium-xx- x.x.zip, un65-chromium-xx-
x.x.zip, sb78-chromium-xx- x.x.zip).

Fig. 39 Select an updated package

f. Follow the on-screen prompts to install the upgrade (a reboot may be
required). Confirm the upgrade is successful by re-checking the version
shown in 1 above.

For old BSP's

For BSP version older than sb78 2.1.94 / UN60 3.1.120 / UN65 3.1.120:

Open tab "Management".

Step 1.   On the "Installed Apps" list, select Chromium and press the uninstall "Button".
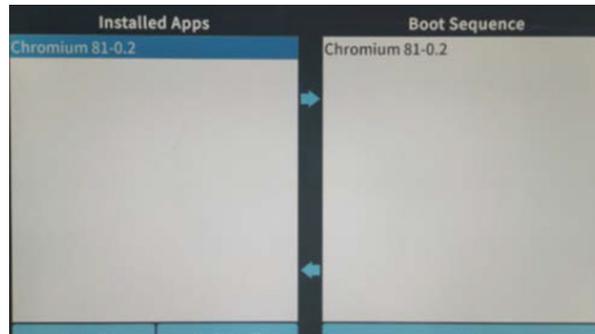
Fig. 40 Installed Apps list

Step 2.   Insert the USB stick. Until the product beeps. Then press the "Install" button.

Step 3.   Browse to "/mnt/usbmemory" location and select the image to install the respective BSP file (un60–chromium–xx– x.x.zip, un65–chromium–xx–x.x.zip, sb78–chromium–xxx. x.zip).
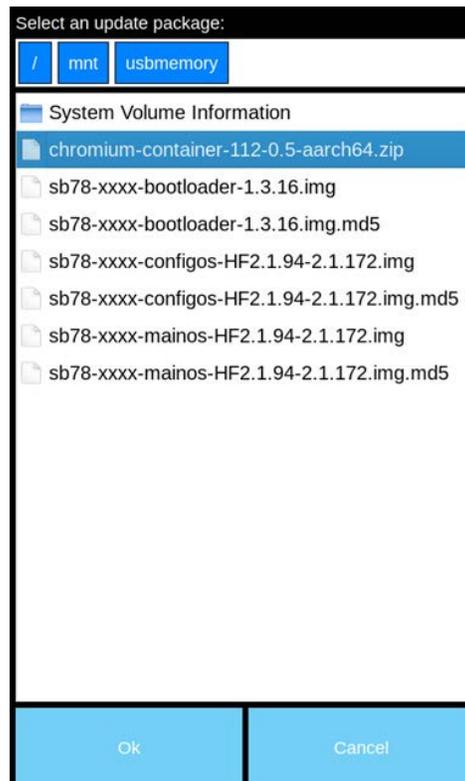
Fig. 41 Select an update package

Step 4.   After the installation is complete press the "Done" button to execute the
restart sequence.

7 PRODUCT SECURITY

Physical Security

While the product is developed to the high security standards, it is recommended to add a layer of physical security. Ensure that physical access to the product and all its adjacent networks and equipment is restricted to authorized and trained personnel only.

Communication Security

The product allows communication over HTTP and HTTPs. It is not recommended to use HTTP communication as the data is sent clear over the network. Always use HTTPs if possible.

HTTPS

When using HTTPs, ensure that the HTTPs servers certificated is valid, is signed by a trusted CA and has a sufficient valid until date. Consult the server's security manual on how to install certificates on the server side. If the server application supports certificate-based client authentication consider using this option. Refer to the server's security manual on how to generate and set up client certificates. The product is equipped with a certificate manager, which allows managing the products certificates.

HTTP

HTTP is not recommended to use. If possible, update the HTTP server's configuration to support HTTPS. When using HTTP, physical access to the product, all adjacent networks and servers must be restricted.

Software and Firmware Updates

Always ensure that all components of the system run the latest firmware and software components. See Firmware and Chromium Updates section.

Admin Password

The products configuration and administration interfaces are protected by a password. Up on delivery and after a Device Restore, the password of the 'admin' user is 'admin'.

Upon the first login the password must be changed. Ensure that the password is non-predictable, not written down and only shared on a need-to-know basis. Consider changing the password in regular intervals. Always change the password if a person that does not need (or no longer needs) access to the product knows the current password.

Lost Admin Password

If the admin password is lost, the product can no longer be configured. To reset the admin password the devices must be reset, see Tap-Tap Menu System Settings: Device Restore.

Reselling/Repurposing

Before the device is given to another party it must be ensured that no confidential data remains on the product. A device reset must be performed before repurposing the product, see Tap-Tap Menu System Settings: Device Restore.

Import public root certificate to the touchscreen monitor

Step 1.   Export the public root Certificate on to the PC.

Step 2.   Copy the certificate file to a USB memory stick.

Note: *The USB memory stick MUST be formatted as FAT 32.*

Step 3.   Insert the USB stick containing the certificate file into the touchscreen monitor.

Step 4.   From the System Settings menu select Web Browser. The Web Browser settings are displayed.
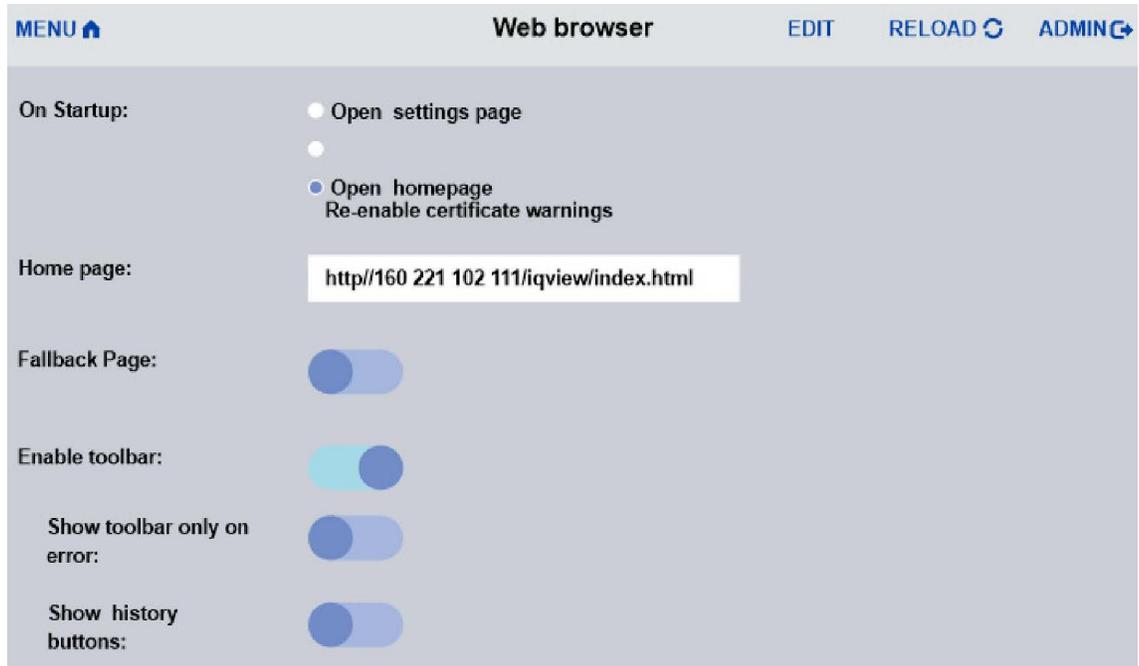
Fig. 42 Web Browser settings

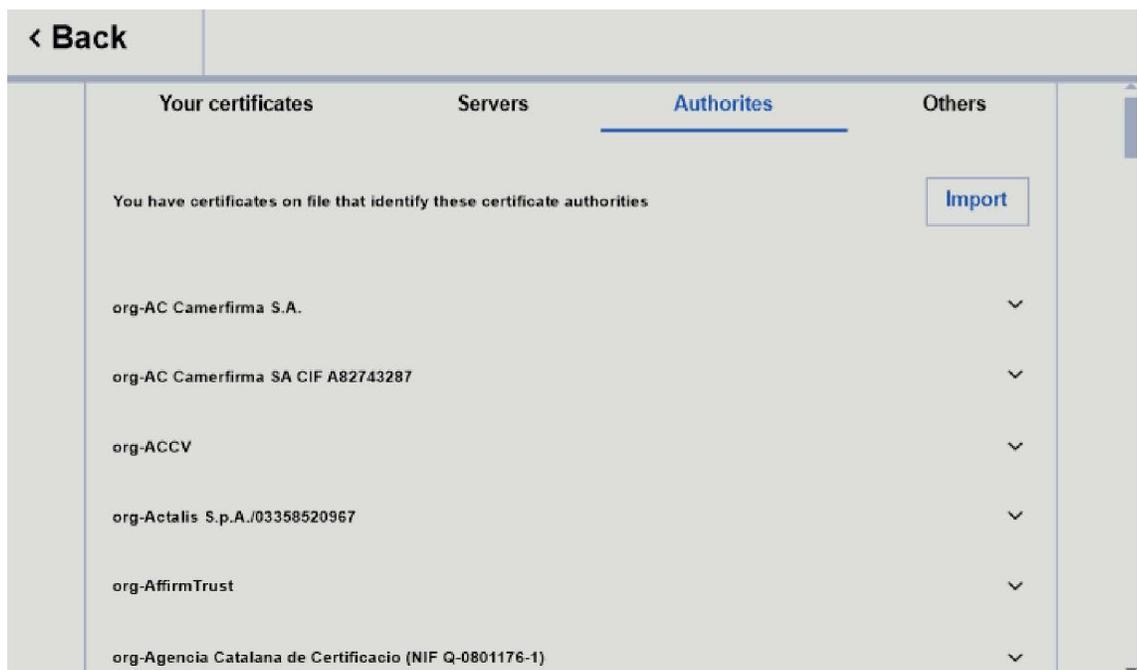Step 5.   Scroll down to display the Certificate option.
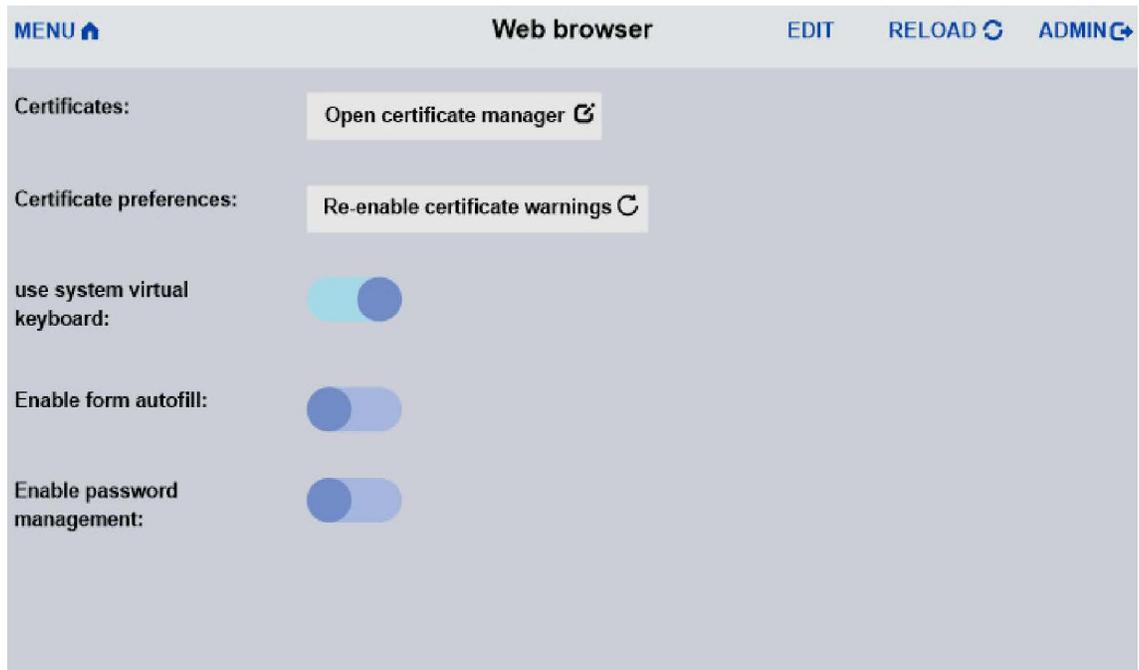
Fig. 43 Web Browser settings

Step 6.   Select Open certificate manager. The display changes.

Fig. 44 Open certificate manager

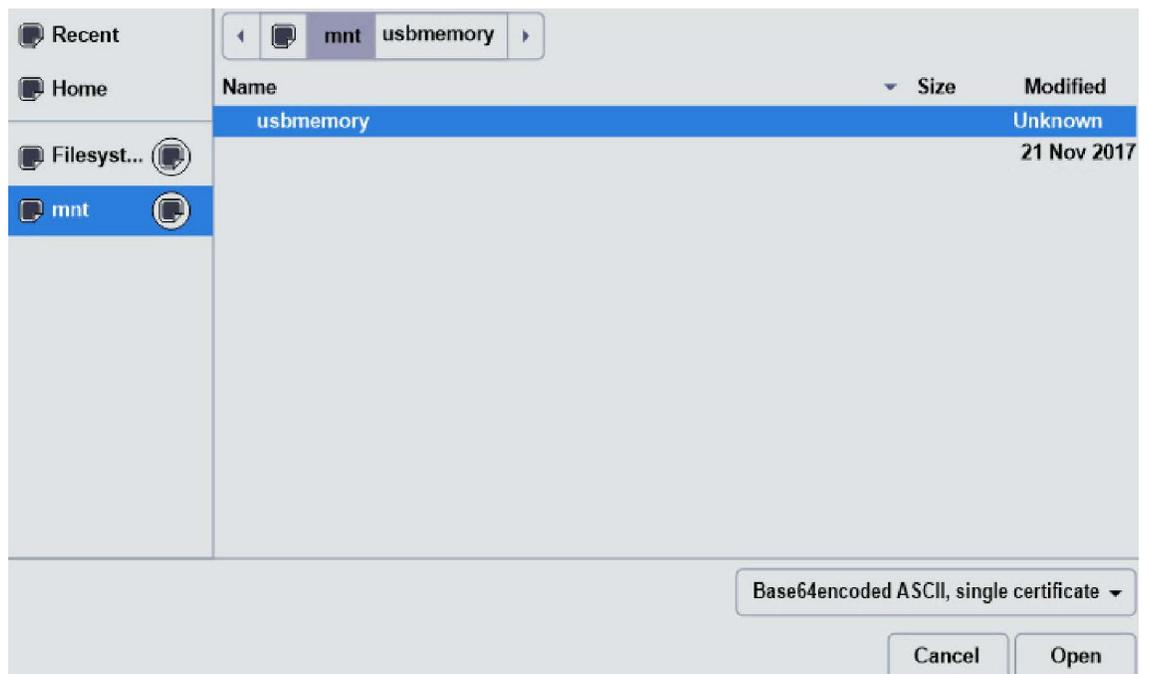Step 7.   Select Authorities. The display changes.

Fig. 45 Authorities

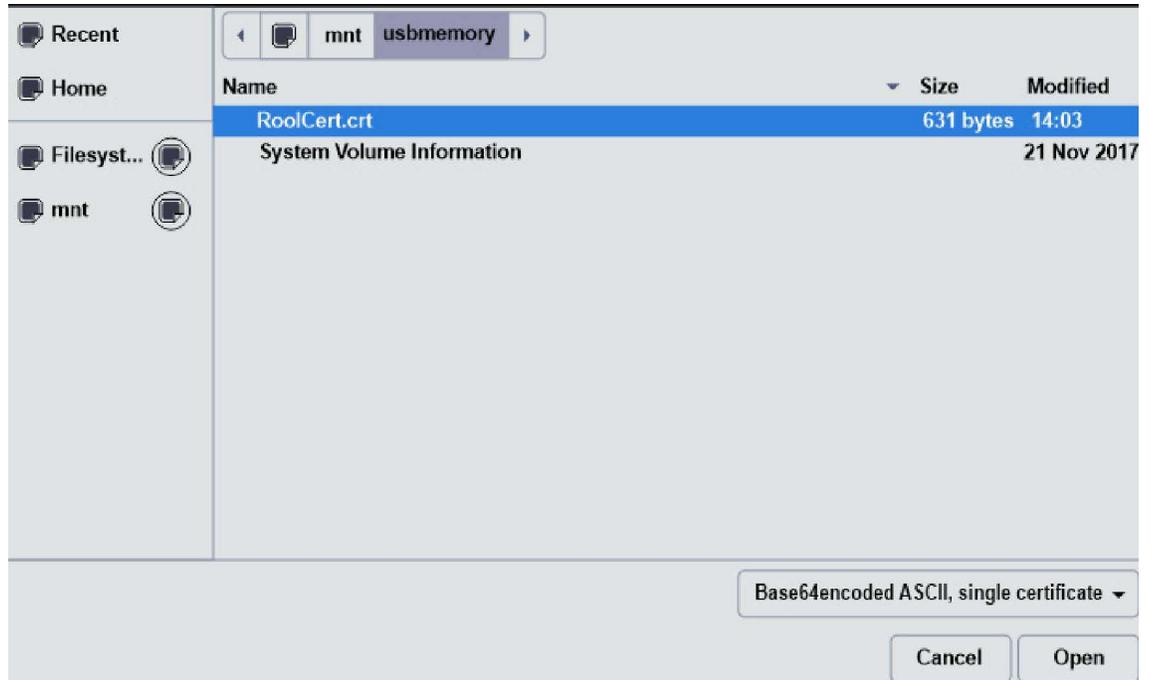Step 8.   Select Import. The display changes.

Fig. 46 Import screen

Step 9.   Click mnt on the left. The display changes.
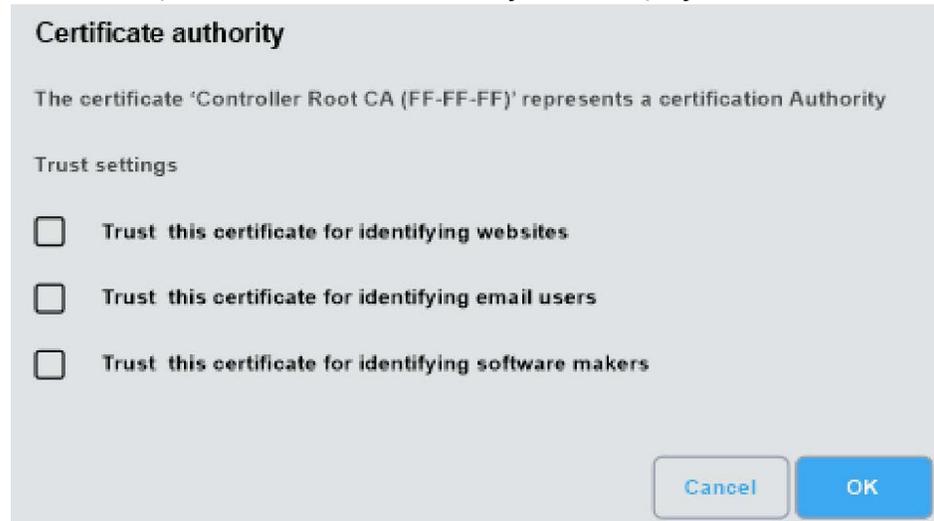

Fig. 47 mnt

Step 10.   Click usbmemory and click Open. The display changes.

Fig. 48 Authorities

Step 11.   Select the public root certificate created earlier.
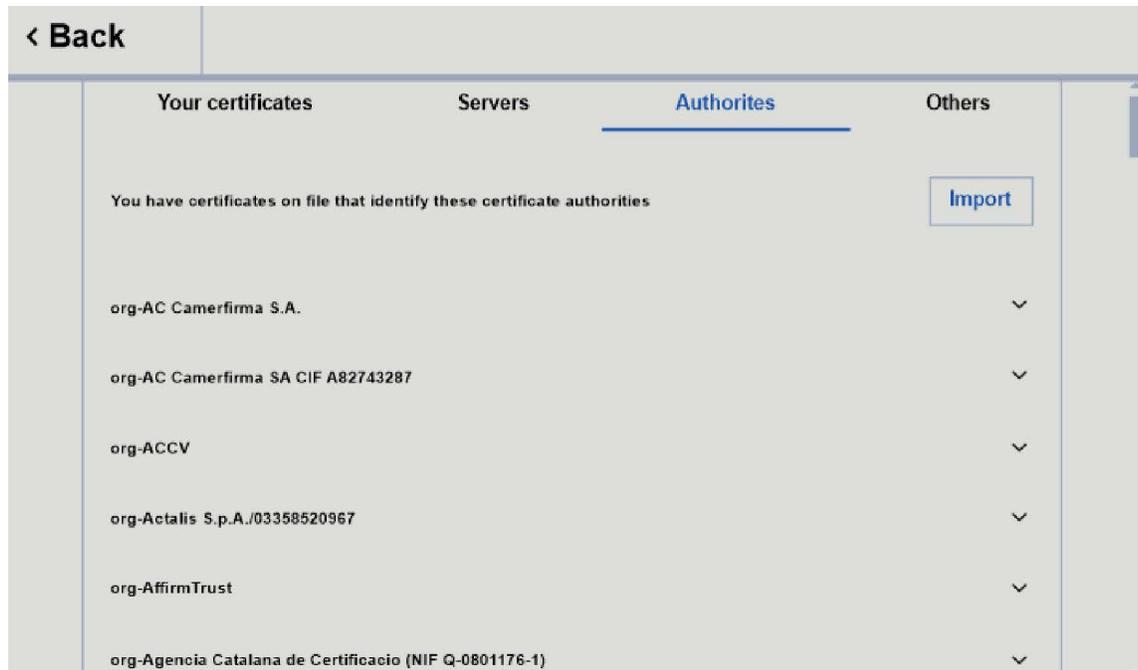
Step 12.   Select Open. The Certificate authority box is displayed.

Fig. 49 Certificate authority

Step 13.   Select the Trust this certificate for identifying websites option.

Step 14.   Click OK. After the certificate loads the display returns to the following:

Fig. 50 Authorities

Step 15.   Confirm that certificate has been imported by scrolling down the list of Authorities certificates to find the certificate that has been imported.

Step 16.   Select Back to return to the Web Browser settings.

Step 17.   Ensure that the Homepage is configured to use the controller's hostname and not the IP address.