

Jungheinrich WMT

WMT110 / WMT115 Manual

51885736



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1. Change History

Date	Description	Version
15.12.2016	First Version	0.9
20.03.2017	Release 1.0	1.0
27.03.2017	Change Nomenclature / Screenshots	1.1
07.11.2017	Roundup according to German version 1.3	1.3
10.09.2018	Adaptations for SparkLAN Refresh	1.4
02.06.2019	Update for Windows 10 2019 LTSC	1.5
07.11.2019	Formal adaptations	1.6
18.06.2020	Windows Defender added	1.7
28.09.2020	Formal adaptations	1.8
31.08.2021	General Update	1.9

2. Comments

2.1 General Comments

This manual is about administration and usage of the Jungheinrich WMT series 110/115. You can find further information for mounting, cabling and safety-relevant aspects in the separate available quick installation guide.

The original version of this manual is in German. Every non-german version of this manual is a translation.

2.2 Manufacturer

Manufacturer of this product is the Jungheinrich AG, in the following called Jungheinrich.

2.3 Data, Images, Changes

All data, images and changes have been created to the best of one's knowledge and belief. There is no assurance for any specification. There is no guarantee for integrity and topicality. Subject to change without prior notice.

2.4 Trademark

All mentioned (soft-/hardware, brands) descriptions are protected by the general trademark right. Other used foreign brand names are acknowledged. Jungheinrich reserves the right to assert all rights in the event of a breach of the trademark rights.

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3. General Description of the truck terminal

3.1 Use description

The Jungheinrich truck terminals WMT were specifically developed for use on forklift trucks in logistics and industrial environments.

The terminal must be operated and stored under the following conditions:

Temperature during operation -30°C to +50°C

Temperature during storage -40°C to +80°C

Air humidity in operation and storage 10% to 95% without condensate.

The terminal is protected against dust and jets of water in accordance with protection rating IP65.

Use in areas where there is a risk of explosion is prohibited.

3.2 Electrical power data

Power supply	
Version 12 V	6,5 - 16 V DC
Version 24 - 48 V	16,8 - 72 V DC
Power consumption	
typical (maximum)	25 W (58 W)

3.3 Type plate



No.	Description
1	Feature number
2	Production date (year and calendar week)
3	Serial number (also as barcode above)
4	WLAN MAC address (also as barcode above)
5	Manufacturer
6	Input voltage and maximum power consumption
7	Material number

3.4 Opening the Service Chamber Cover

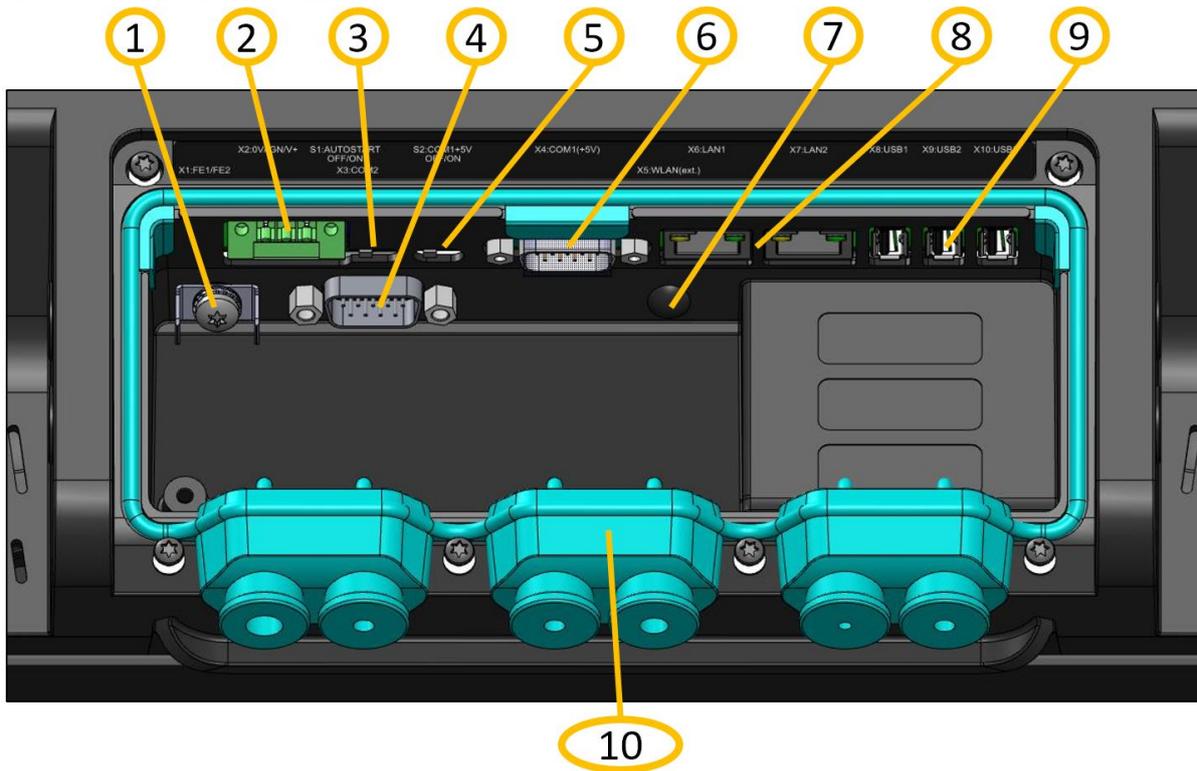
Note

The relevant safety measures must be observed at all times when handling electrostatically hazardous components. (DIN EN61340-5-1 / DIN EN 61340-5-2).



Remove the screws from the service chamber cover (Fig. II, item 4) using a Torx Tx10 screwdriver. Remove the service chamber cover from the terminal.

3.5 Overview of interfaces

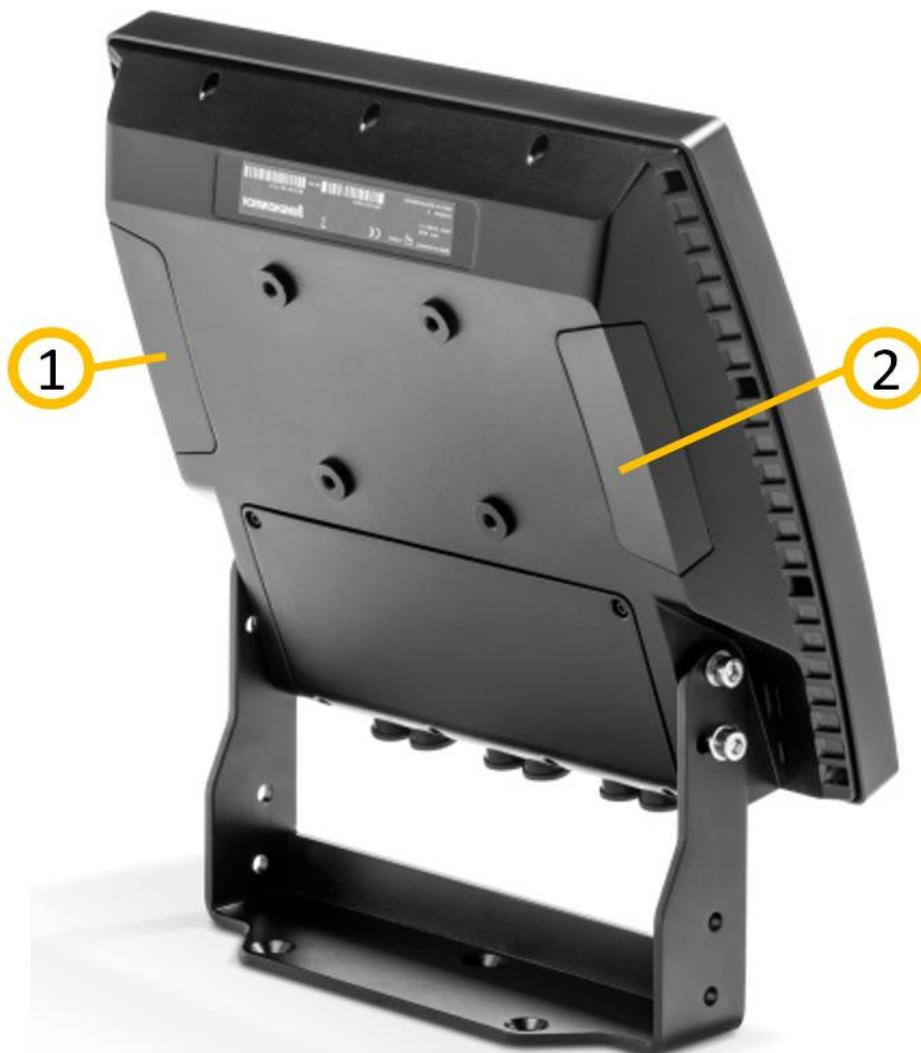


No.	Description
1	Grounding (PE) - 2x1,5mm ² flat plug contacts
2	Power supply (0V DC - ignition contact - +12 V or +24/48 V DC)
3	Switch for auto start function (OFF:ON)
4	COM2 (RS232)
5	Switch for 5V at Pin9 COM1 (OFF:ON)
6	COM1 (RS232) with optional 5V power supply on pin 9
7	R-SMA connector for external 2.4/5 GHz WLAN antenna (optional)
8	2 x Ethernet 10/100/1000 Mbit RJ45
9	3 x type A USB 2.0
10	Use grommets to ensure IP65 protection. The grommets have a slot on the side for inserting the cables. For strain relief, an additional cable tie can be attached over the corresponding opening on the outside.



3.6 Antennas WLAN and Bluetooth

The two antennas for 2.4/5 GHz WLAN and Bluetooth are protected behind the two plastic covers on the back of the vehicle terminal. When mounting, make sure that the antennas are not covered.



If the option external antenna has been selected, the internal antenna at the rear right (2) is deactivated and offered externally in the service slot via an R-SMA connector.

4. Handling

When the device is switched on for the first time, the operating system automatically starts with the administrator user and begins with the WMT Setup Wizard (see 5.1 Jungheinrich WMT Setup Wizard). The WMT will continue to start in setup mode until the wizard has been completed once.

4.1 Users

There are two users preset on the Windows operating system:

Login name: User
User Group: Users
Password: user

Login name: Admin
User Group: Administrators
Password: jhwmt



Note

Change Autologon User:

To change the „autologon user” i.e. after an Active-Directory domain integration, the changes need to be configured by the following registry options:

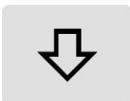
Registry-Path	[HKLM\Software\Microsoft\Windows NT\CurrentVersion\winlogon]			
Name	Type	Value	Default	Description
AutoAdminLogon	REG_SZ	0 (off) / 1 (on)	1	Autologon de-/activate
DefaultUserName	REG_SZ	<string>	user	Username for Autologon
DefaultPassword	REG_SZ	<string>	user	Userpassword for Autologon
DefaultDomainName	REG_SZ	<string>	<<leer>>	Domain name

4.2 Front Buttons (default)

By default, the front buttons of the WMT are assigned to the following presets:



On / Off button.
Operating System will shut down or start.
Power supply will not be disconnected

	Toggle key for the second keyboard layer. Press and hold, then use the function keys.
	Layer 1: Cancel (ESC) Layer 2: Decrease display brightness
	Layer 1: Navigation upwards Layer 2: Increase display brightness
	Layer 1: Navigation downwards Layer 2: Decrease volume
	Layer 1: Accept (Enter) Layer 2: Increase volume

All buttons are individually configurable, except „FN” and the ON / OFF button.

Note

The front button configuration in the operating system differs from the one in BIOS setup. Please refer to chapter 6.

5. Configuration

The following chapter explains the necessary steps for setting up the WMT as well as other individual software configurations.

5.1 Jungheinrich WMT Setup Wizard



The Jungheinrich WMT Setup-Wizard can be used to set up the WMT and starts automatically at the first boot. The „WMT Setup Wizard” can set up the following configurations.

- Language and region
- Date, time and time zone
- Computer name
- Network configuration (TCP/IPv4)
- WLAN profiles

The Setup Wizard will always be restarted until it has been completed once.

The WMT Setup Wizard can be started and reset manually using the scripts in the following path:
“C:\Program Files\Jungheinrich\Setup Assistant\setupass.exe”

Note

A system reboot is necessary to complete the device configuration.

Note

The WMT Setup Wizard supports preconfiguring the following WLAN profiles: WEP or WPA / WPA2 encryption with a Pre-Shared-Key (PSK) authentication. WLAN-Profiles using EAP-authentication must be configured manually by using the Windows network configuration centre.

5.2 WMT Configuration Center

The “WMT Configuration Center” is necessary for device specific configurations. Please look for the desktop icon to start the application. Administrator rights are needed. Further explanation is given in the following chapter.

The “WMT Info Center” is able to display system information. Please look for the desktop icon to start the application. No device configuration can be changed.



5.2.1 System Information

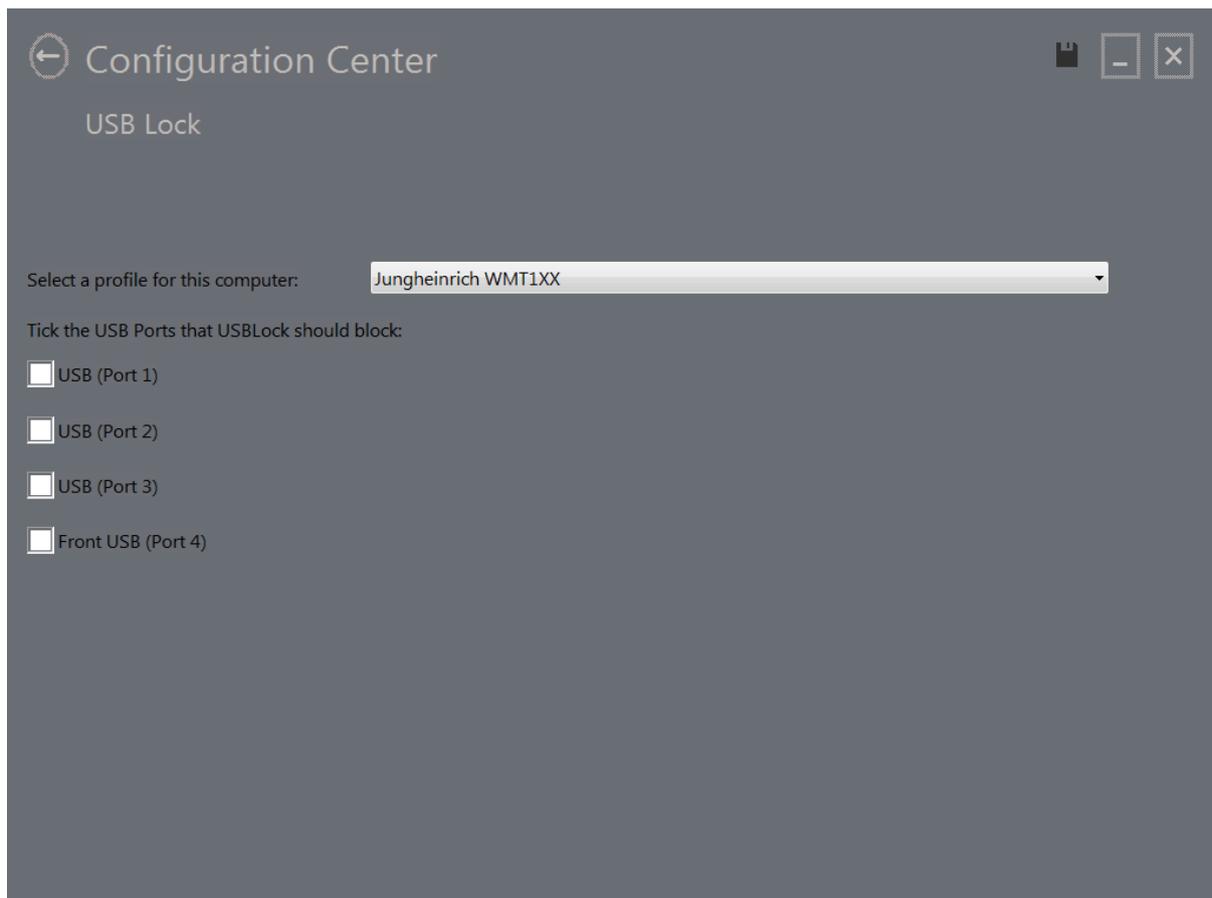
Displays system specific information:

- Computer name
- Device type
- Serial number
- Feature number
- BIOS version
- Firmware version
- Image version
- Network information
- Hardware equipment

Screen "WMT Configuration Center" and "WMT Info-Center" are equal.

5.2.2 USB Lock

Tool to disable USB ports.



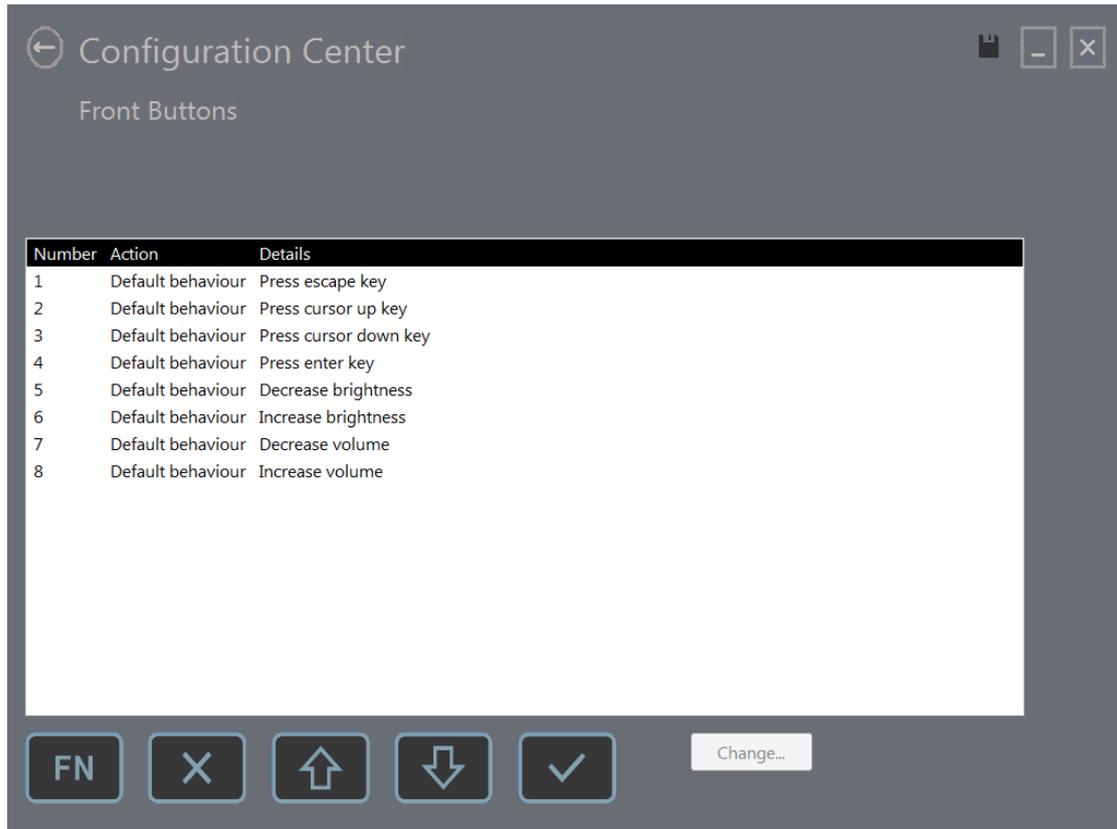
Note

Only data traffic is blocked. Charging of USB devices is still possible. For a complete lock of the front USB ports please go to the BIOS menu.

To disable a USB port activate the checkbox of the appropriate USB port and save your changes by clicking on the floppy disk symbol in the upper right hand corner.

5.2.3 Front Buttons

Allows user specific configurations of the front buttons underneath the display. (default config look at 3.2)

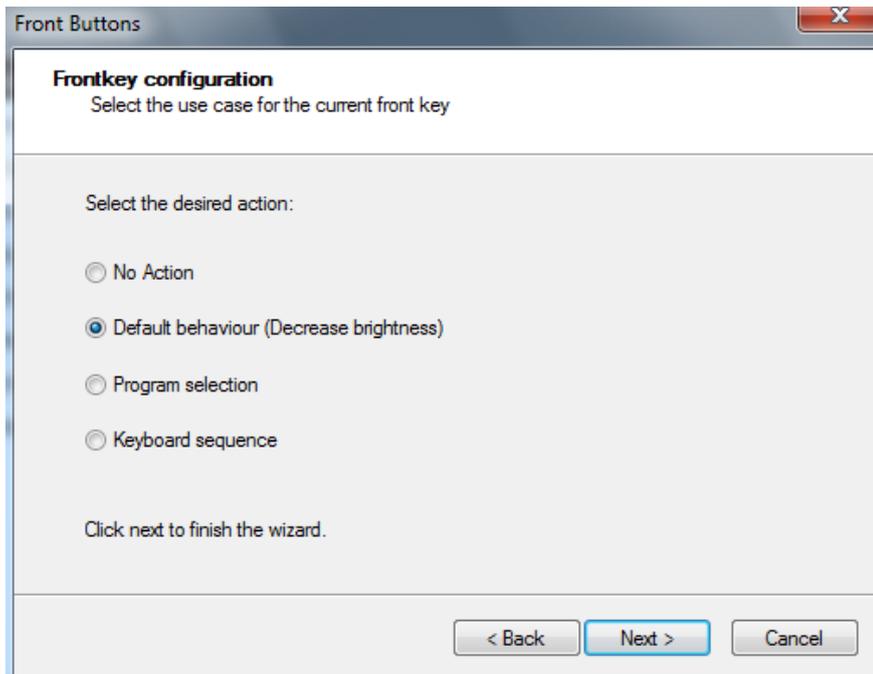


Changing Button Assignment:

1. Select required front button and click on change.



2. Choose an action.



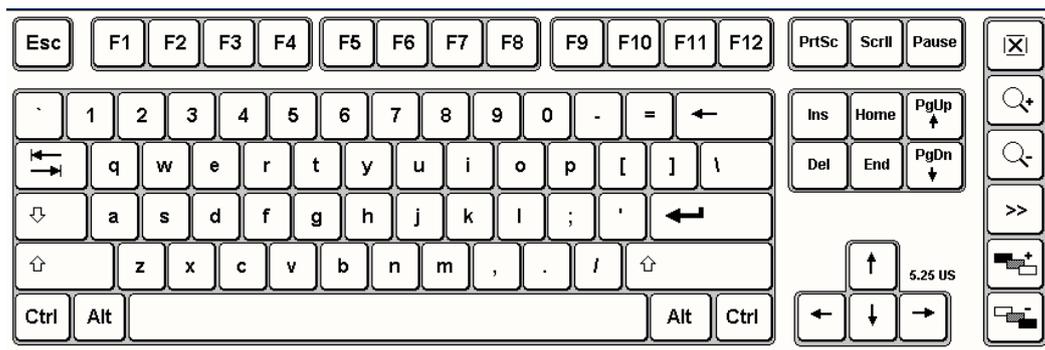
3. Follow the instructions of the wizard then click on the disk symbol. The changes will now affect the front button.

The front button configuration is saved under the following registry path:
„[HKEY_LOCAL_MACHINE\SOFTWARE\Jungheinrich\FkCommProxy]”

5.2.4 On-Screen Keyboard

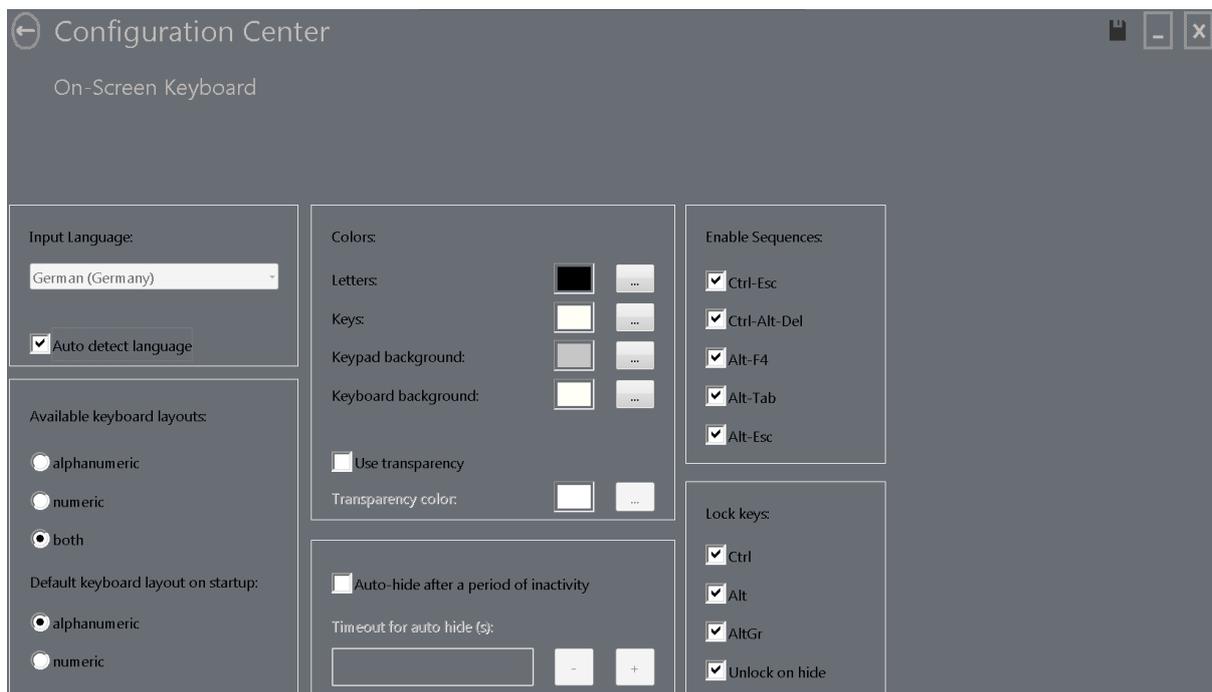
Beside Windows On-Screen-Keyboard (osk.exe) there is another preinstalled keyboard available for the WMT. This keyboard can be configured further and its icon can be found on the taskbar.

Standard layout On-Screen-Keyboard:



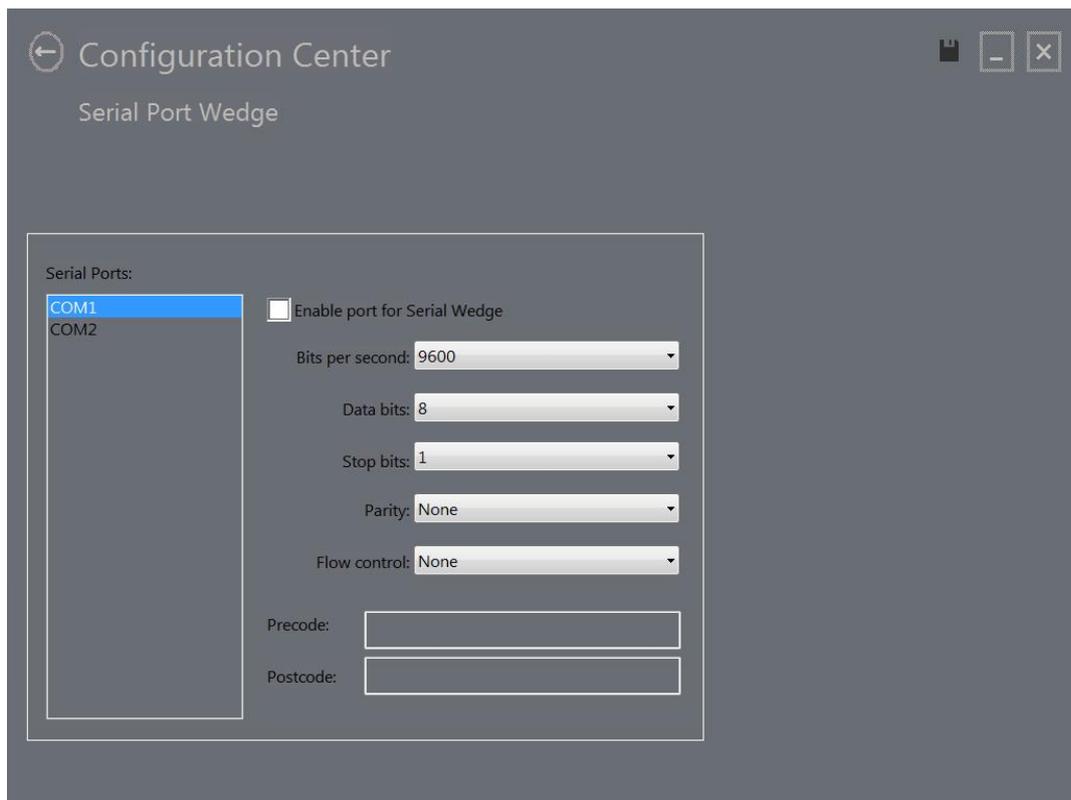
The „Configuration Center” enables the following setups

- Input language / keyboard layout (alphanumeric / numeric)
- Display (colour / transparency)
- Automatic fade out after inactivity timeout (in seconds)
- Enable key combination
- Lock control keys



5.2.5 Serial Port Wedge

By using the „Serial Port Wedge” tool, it is possible to interpret data traffic from a COM port as keyboard input. Optionally, a Pre- resp. Postcode can be configured. Application example: Barcode scanner with serial connector.



How to configure Serial Port Wedge:

1. Select the appropriate COM port
2. Enable the checkbox „Enable port for Serial Wedge”
3. Configure the transmission settings according to the requirements of your serial device
4. Optional: Configure a Precode (inserted before entry)
5. Optional: Configure a Postcode (inserted after entry)
6. Save config with disk symbol

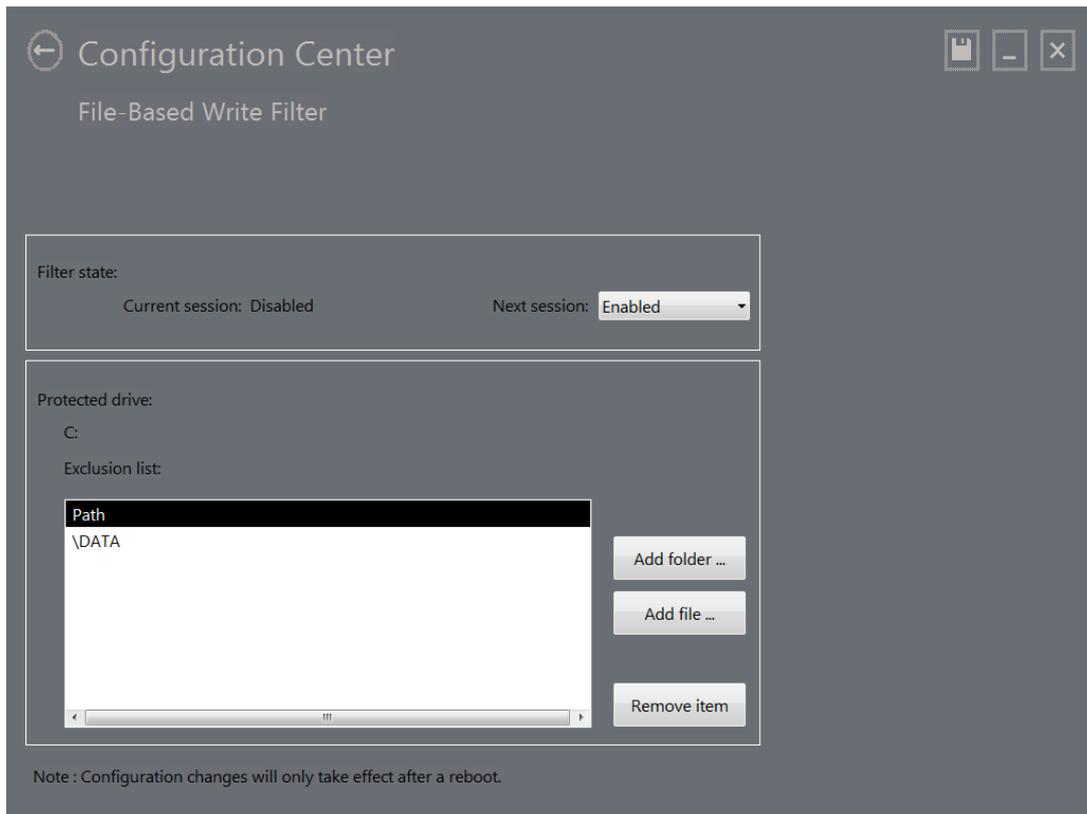
Note

Only one process can use a COM port at a time.

5.2.6 File-Based Write Filter (FBWF) / Unified Write Filter (UWF)

FBWF (Windows 7 Embedded) / UWF (Windows 10 IoT) is a Microsoft driver that saves all I/O operations and redirects them to a special storage cache. By rebooting the operating system on the WMT, all savings and changes will be deleted. For permanent savings, it is needed to disable the FBWF/UWF. Switch dropdown to „disable” then click on save and restart the WMT.

Exceptions causing loss of savings / changes are possible by choosing a folder, which will not get affected by the FBWF. Write protection is provided only for the C: partition, the D: partition is always excluded from write protection.



It is recommended to enable the FBWF/UWF to avoid unintended changes to the system.

Note

All changes according to FBWF/UWF will affect after restarting the WMT.

The current write protection state can be determined either via the configuration menu or via the desktop information.

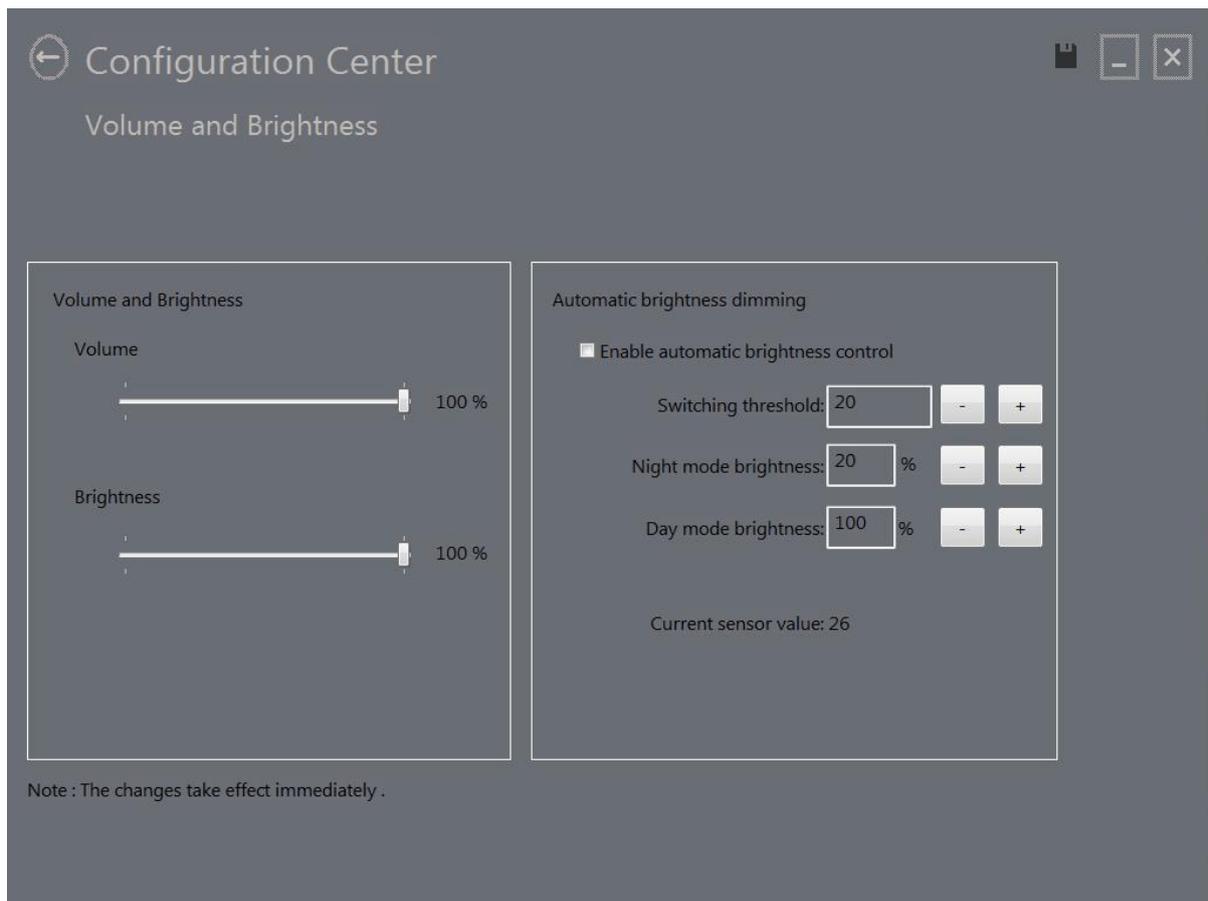


DisplayWrite protection disabled



Display write protection enabled

5.2.7 Volume and Brightness



Allows regulation of display brightness and sound volume. Optionally, an automatic brightness control can be activated. The brightness sensor is mounted above the power LED. „Switching threshold” indicates the brightness sensor value, which triggers switching between „Night mode” and „Day Mode”.

„Night mode brightness”- as well as „Day mode brightness” - value indicates how many percent of the maximum display brightness is used.

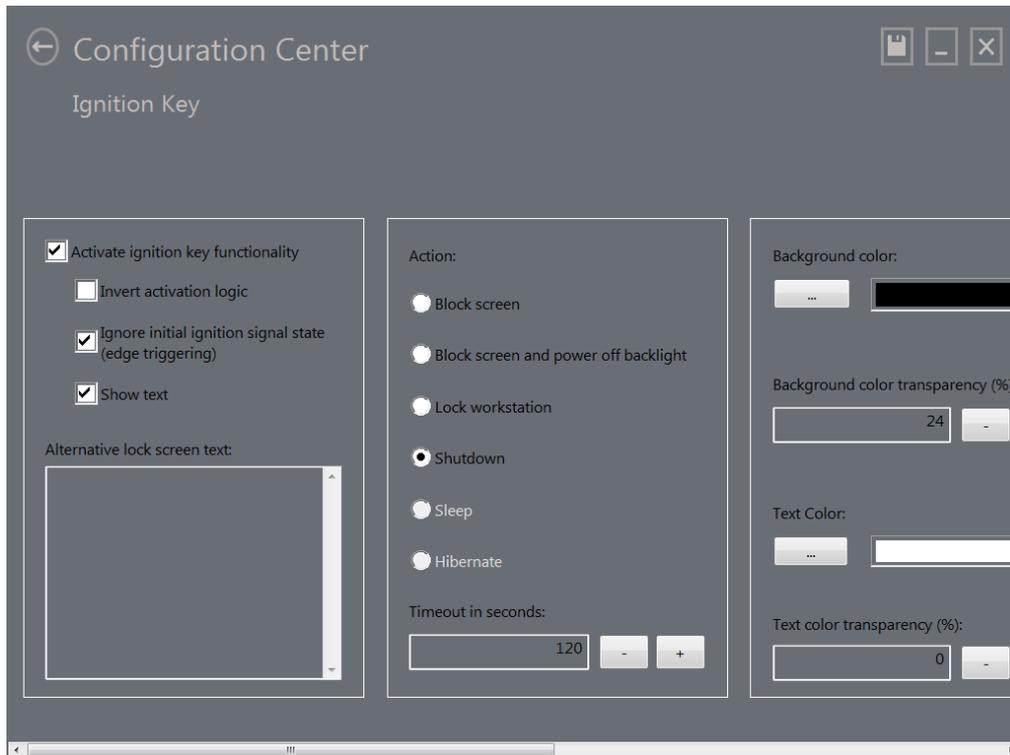
Default values:

Switching threshold: 20
Night mode brightness: 20 %
Day mode brightness: 100%

5.2.8 Ignition Contact

The truck terminal has the option of being started or locked by means of an additional signal input. This function is used to protect the system against unauthorized access and saves energy when used in battery-powered vehicles or mobile locations.

Applying a voltage to the ignition contact in the switched-off state automatically switches on the vehicle terminal.



Activate Ignition Key functionality

Enables Ignition Key feature. If **no** ignition voltage is supplied to the WMT, the device will carry on with the configured action under "Action:" i.e. Block screen

Note

If there is no ignition voltage on the WMT, the WMT can be rendered unusable by activating the Ignition function, since the WMT is immediately blocked or shut down depending on the configuration.

Invert activation logic

Changes logic for the execution of the Ignition Key function. Performs the function selected under "Action" only if the ignition voltage is applied to the WMT

Ignore initial ignition signal state (edge triggering)

If a (low) voltage is already present on the ignition pin when the forklift is still switched off, the WMT ignores it if the option is activated accordingly. Only a voltage edge will trigger a state change (start or stop).

Show text

Possibility of individual text display if Ignition function is executed

Block screen: Locks / protects screen

Block screen and power off backlight: Locks / protects screen and switches display off

Lock workstation: Locks current user session

Shutdown: WMT will shutdown

Sleep: WMT will go to sleep mode

Timeout in seconds: Specifies the timespan in seconds until the specified action is performed

Background color: Specifies background colour

Background color transparency (%): Specifies transparency of background colour

Text Color: Specifies font colour

Text Color transparency (%): Transparency of font colour

Font family: Font type

Font point size: Font size

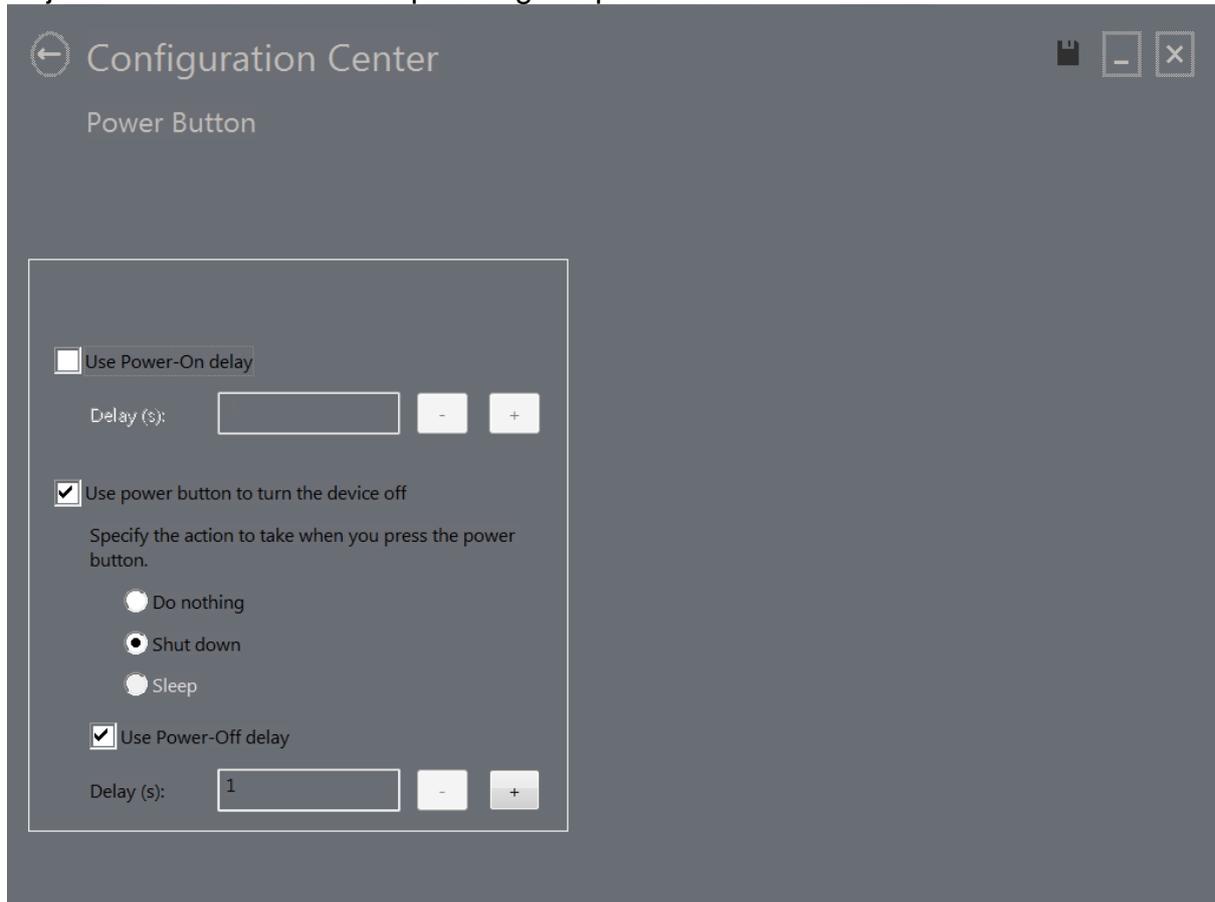
Image file: Possibility to display an image file

Thumbnail: Shows selected image under image file

Image alignment: Defines image position

5.2.9 Power Button

Adjusts the behaviour when pressing the power button



Use Power-On delay

Specifies the time in seconds that the power button must be pressed to turn on the WMT.

Use power button to turn the device off

If the power button is pressed during operation, the WMT switches off.

Use Power-Off delay

Specifies the delay after which the selected action is performed.

Note

If the power button is pressed for more than 5 seconds, the WMT is switched off (not shut down) independently of the configuration.

These settings are stored permanently in the system controller of the device. A change of the power options in the operating system concerning the power button has no influence on the behaviour.

5.3 Configuration deviations from Windows Standard

Deviations from Windows Standard configuration:

- Windows Remote Desktop (RDP) connections are enabled for both accounts „Admin” and „User”.
- Automatic Windows updates are disabled and their installation can only be triggered manually.
- Windows Action-Center messages are disabled.
- Windows Firewall is disabled for network locations home or business as well as public.
- Auto-Play options are disabled.
- Display of file extensions has been activated.
- Energy settings are adjusted for long-term usage.
- Internet-Explorer standard home page is changed to:
<https://support-rdt.jungheinrich.com/support/>
- All icons and symbols are displayed all the time in the system tray
- Windows Defender is disabled

5.4 Windows Updates (valid for Windows 10)

For both Windows 10 versions (2016 LTSC and 2019 LTSC), Windows updates are deactivated in the delivery state. It is recommended to install the monthly updates (also for use in isolated networks with activated write protection).

To do this, the write protection must be deactivated and then manually searched for updates via "Windows Update"; then the write protection can be reactivated.

5.5 Preinstalled 3rd-Party-Software

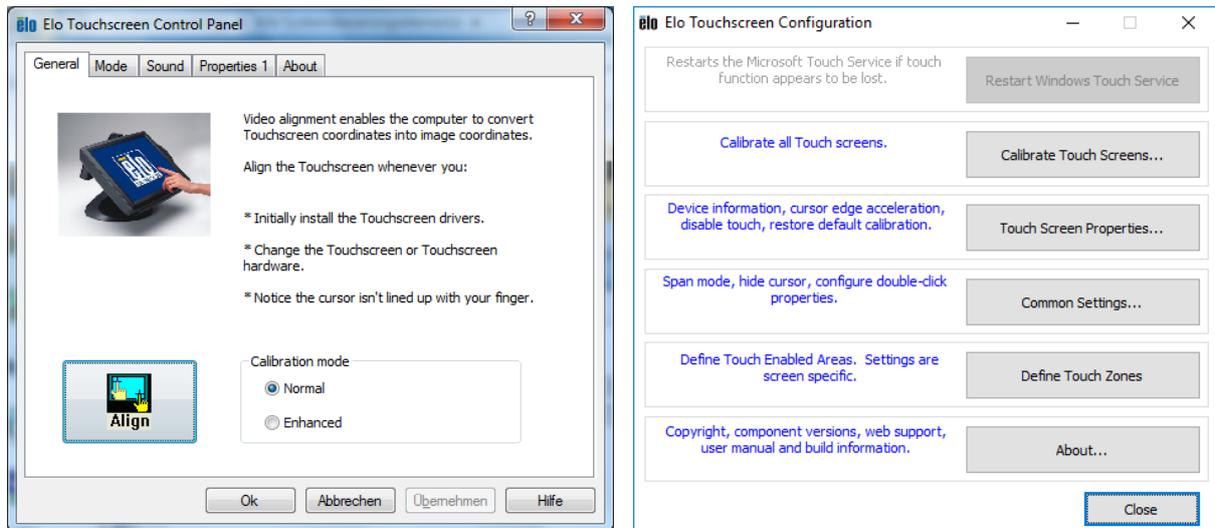
Following third party software is included in the WMT1XX image:

Product	Manufacturer	Function
Sumatra PDF	Krzysztof Kowalczyk	PDF Viewer
UNEX driver	Qualcomm-Atheros	WiFi network driver + configuration
BGInfo	Sysinternals	Display Write Protection Status
Elo Touchscreen driver	Elo Touch Solutions	Touchscreen configuration
Intel Wireless driver	Intel	WiFi network driver + configuration
Microsoft .Net Core 2.2.5	Microsoft	.Net Core Laufzeitumgebung
Microsoft .Net Framework 4.7.2	Microsoft	.Net Framework for applications
SparkLAN driver	Qualcomm-Atheros	WiFi network driver + configuration



5.5.1 Elo Touchscreen (resistive displays)

The software is used to configure the resistive touch screen and can be accessed via the system control panel. Depending on the operating system (WES7 or W10IoT), two different drivers are in use. In the following the left pictures refer to WES7 and the right pictures to W10IoT:



The following functions are available:

- Handling touch control
- Define double click behaviour
- Define acoustical touch feedback
- Perform the calibration
- Disable touch function

In the calibration mode “normal”, a 3-point calibration is performed. In the “enhanced” mode, a more precise, 29-point calibration is performed.

Note

On Windows 10, the multitouch driver is pre-installed.

The 29-point calibration is only available for the singletouch driver. Thus, should the mouse emulation be necessary or an insufficient pointing accuracy occur, the use of the singletouch driver and the 29-point calibration is recommended.

5.5.2 eGalax Touchscreen (capacitive displays)

The capacitive touchscreens are controlled and configured both under WES7 and W10IoT with the driver integrated in Windows (accessible via system control - pen and finger input). The calibration of the touch screen can also be reached via the system control.

6. BIOS

Note

By default, the BIOS setup menu, as well as the BIOS One-Time boot menu, is protected with the default BIOS administrator password “**jhwmt**”.

When a USB barcode scanner is connected, the standard password can also be scanned using the following bar code (barcode type: code 128):



To start the BIOS menu, please press the Delete / Return key (external keyboard) directly after switching on the WMT.

The one-time boot menu can be opened via the ESC key (external keyboard) or via the “X” front button when the Jungheinrich boot logo is displayed:

„Enter Setup” starts the BIOS setup menu.

6.1 Navigation in BIOS

HINWEIS

The front key assignment differs in the BIOS from that in the operating system.

	Shift key (SHIFT) for the second key level. Keep holding the button and then the corresponding function key can be pressed.
	Layer 1: Cancel the respective action (ESC) Layer 2: No function
	Layer 1: Navigate upwards Layer 2: Change the tabs to the left

	Layer 1: Navigate downwards Layer 2: Change the tabs to the right
	Layer 1: Confirm the action Layer 2: No function

6.1.1 Enable / Disable interfaces

BIOS-Menu: Advanced & Chipset

Enables the configuration of performance, hardware and interface properties. The settings are factory-set to the Jungheinrich WMT 11X and should only be changed by experienced staff. Via the following menu path, selected interfaces can be activated / deactivated:

Interface	Path	Default
PXE-Boot	Advanced → System Settings → PXE ROM Or: Advanced → Network Stack Configuration	Disabled
Front USB	Advanced → System Settings → Front USB	Enabled
Bluetooth®-Module	Advanced → System Settings → Bluetooth	Enabled
WLAN-Card	Advanced → System Settings → EC-Firmware Configuration → EC-Firmware Device Enables → WLAN	Enabled
Audio-Card	Chipset → South Bridge → Azalia HD Audio → Audio Controller	Enabled

7. Reinstall / Backup & Clone / Restore

The following chapters describe the installation, the creation of a WMT backup and the restoration of a backup (restore).

- **Installation / Restore**

During the new installation or a restore, the WMT is reset to factory defaults or to a backup level

- **Backup**

A backup of the WMT and can be restored in the event of an error or the configuration of a new WMT. Two different types of backups are distinguished:

- **Clone Master Image:**

A clone master image represents a backup of an already configured WMT, which can be played back on any number of Jungheinrich WMTs.

Important: To be able to restore the image to multiple WMTs, it has to be re-set partially back to the delivery configuration. During the cloning process, the following settings are reset on the Source-WMT and hence have to be manually reconfigured after the process / after the restore on the target devices:

- Network configuration (LAN, Wi-Fi)
- Device name
- Language / Keyboard input / Current location

- **Device Backup Image:**

A device backup image represents a 1:1 backup of a WMT, which can only be restored to the same WMT (same serial number). A device backup image must not be restored on multiple WMTs. To restore a backup to multiple WMTs, please use the Clone Master Image.

Note

For a new installation as well as a "backup" and „restore", the creation of an installation USB stick required

7.1 WMT USB Creator



7.1.1 Requirements:

- USB-Stick with 16 GB memory
- Administrative privileges

Note

The size of the USB stick depends on the memory space occupied by the WMT or the size of the backup image file (.wim). For a new installation, a USB stick with a size of 16 GB is sufficient. For creating a backup image, eventually more space is needed.

- PC with Microsoft Windows 7 (or higher)
- Bootable USB Wizard for creating an install USB stick:
Download the latest „Bootable USB Creator” from:
<https://support-rdt.jungheinrich.com/support/>

Note

Execute the „Bootable USB Creator” from a local file system on your computer and not from a network attached storage.

7.1.2 Creating an Install USB stick:

Download latest „Bootable USB Creator” and extract the compressed file. Then start „*bootusbcreator.exe*” with administrative privileges.

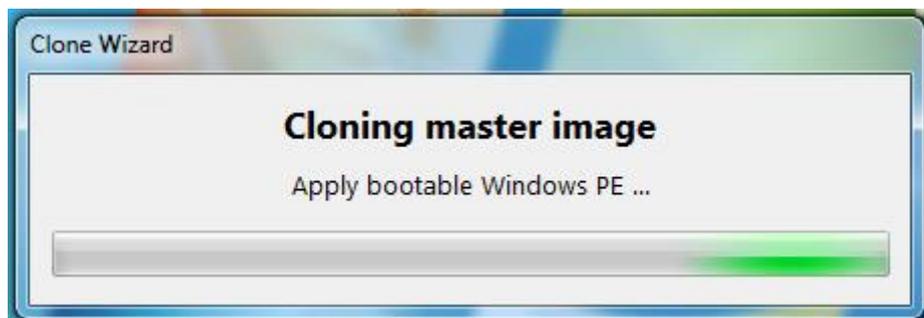
Commit the „Welcome Page” with „Next”.

Connect the USB stick to the computer and select the USB stick from the drop-down menu. Then select the image file to be installed on the WMT. If only a „Device image backup” is to be performed, set the

checkbox to “Do not want to copy an image file to the flash drive”. To reset the WMT to factory settings, download the latest image from <http://www.support-rdt.jungheinrich.com>.



Continue with “Next” and check the settings before you finish the process with “Finish”. The USB stick is then formatted and prepared for installation



Note

All data on the USB stick will be deleted after confirming the “Finish” button and cannot be restored.

7.1.3 Boot from Install USB stick

Before switching on the WMT, connect the installation USB stick to one of the USB ports. Switch on the WMT and start the one-time boot menu with the “ESC” button (see chapter 6. BIOS) and select the USB stick. The admin password is required, so a USB-Keyboard is required.

Note

At the time of the new installation, only the boot USB stick should be connected to the WMT. Do not use a USB hub, but connect the boot USB stick directly to one of the available USB ports.

The WMT loads the setup files from the USB stick and starts the “Backup and Restore System” tool. Continue with the desired installation.



The “Create System Backup” and “Restore System from Backup” options are dealt with in the following chapters.

Command Prompt

Opens a command line window. This option is only required for troubleshooting purposes.

Shutdown

WMT will shutdown

Restart

WMT will restart

7.2 Create a Device Image Backup

Create an installation USB stick and boot from it (see previous chapter). Select “Create System Backup” from “Backup and Restore System”.

Requirements for a Device Image Backup:

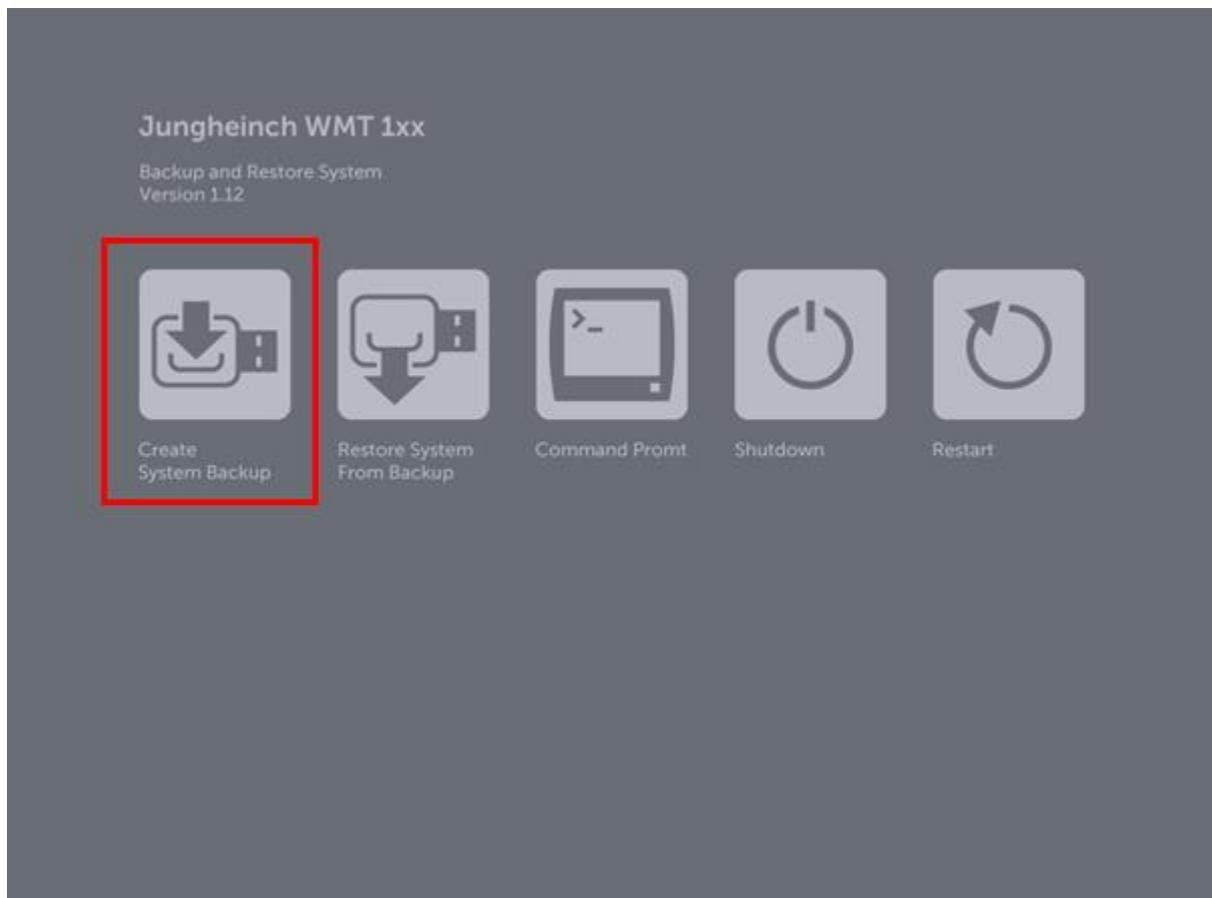
- Prepared installation USB flash drive without operating system
- Enough space on the USB stick depending on the occupied memory space on the WMT
- Deactivated Write Filter (FBWF or UWF)
- No additional language packs must have been installed under Windows 10, otherwise the clone process will fail.

Note

Note that this is not a Clone Master Image Backup. The creation of a Clone Master Image is discussed in the following chapter. A device image backup represents a backup of a WMT and can only be restored on the same device (same serial number).

Note

Note that the “File Based Write Filter” resp. “Unified File Writer” must be deactivated before performing a backup. In case of non-compliance, a faulty backup is created.

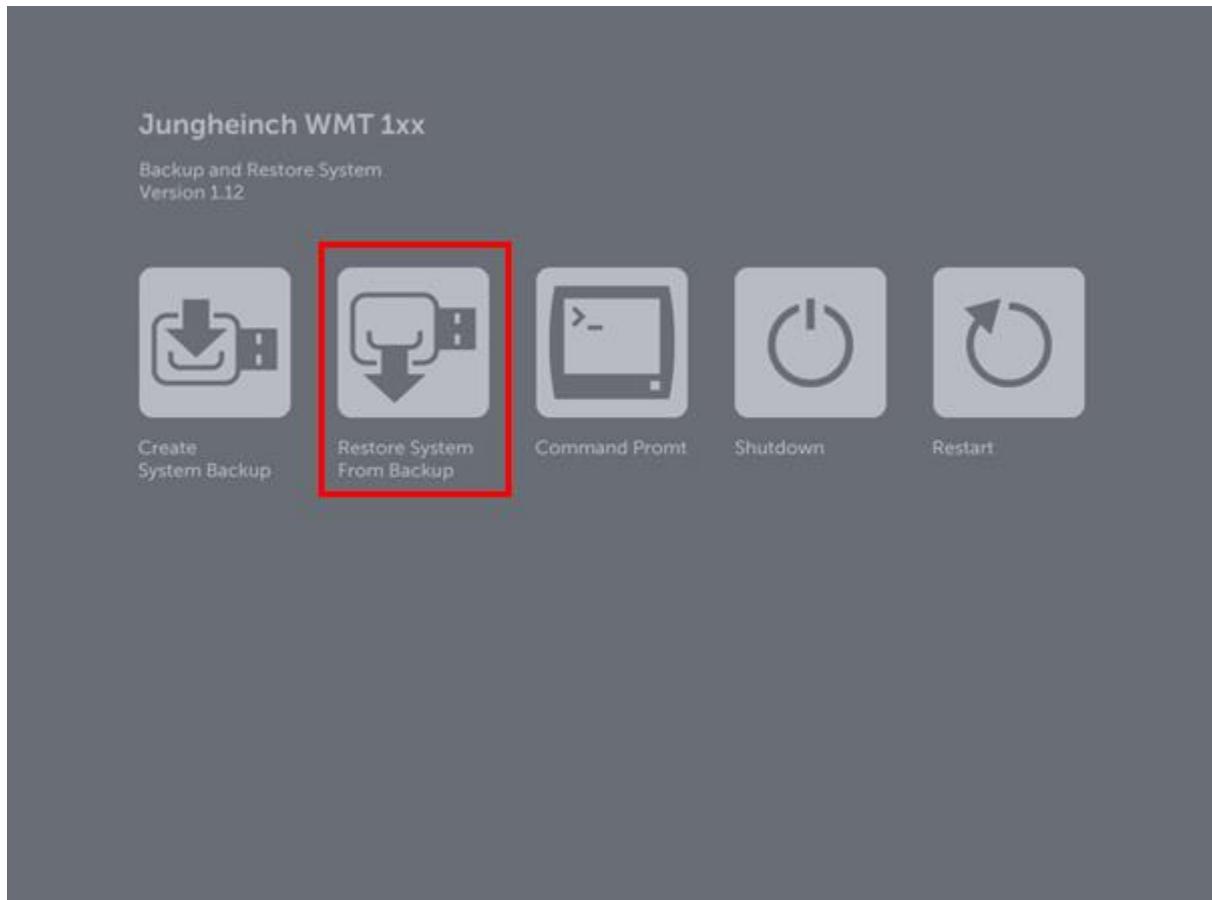


A command line window opens which automatically executes the backup. The progress is displayed during the backup. After completion, the WMT is automatically restarted and booted from the internal memory card.

The backup is stored on the USB stick under "X:\images\install.wim" where X: is the drive letter of the USB stick. To restore the backup, select this image file during the installation of the installation USB flash drive. (See previous chapter)

7.3 Reinstall / Restore System from Backup

The Backup Image, which was selected in the Wizard, will be restored to the WMT (See previous chapter).



When pressing the „Restore System from Backup” button, a command line window opens automatically, which performs the new installation of the WMT. The progress is displayed during installation. After completion, the WMT will restart automatically and boots from the local storage of the WMT.

7.4 Creation of a Clone Master Image

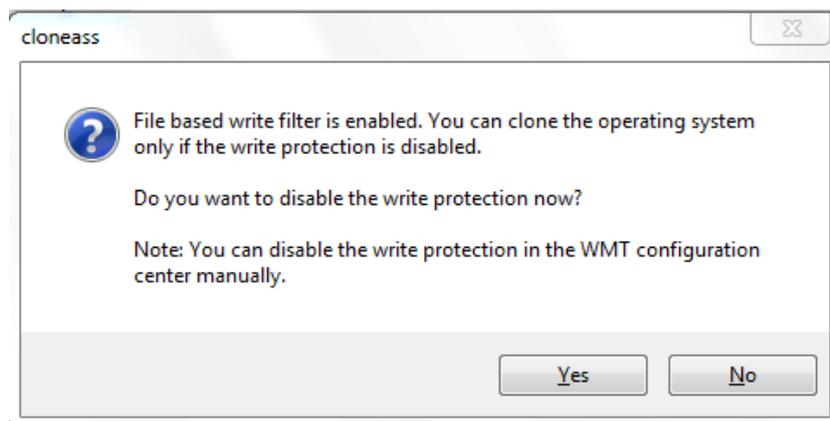
A Clone Master Image is a backup of an already configured WMT (including all settings and installed applications), which can be restored to any number of Jungheinrich WMT. To restore the backup to several WMTs, some device-specific settings are removed during the Clone process, e.g. Computer name, IP configuration. These settings must be performed manually after the clone process has been completed.

Requirements:

- Administrative privileges
- Disabled File-Based Write Filter (FBWF) resp. Unified Write Filter (UWF)
- USB-Stick with at least 8 GB – Depending on the size of the occupied storage on the WMT
- No additional language packs must have been installed under Windows 10, otherwise the clone process will fail.

The “Clone Master Image” is created using the “Clone Wizard”. It can be started via the link on the desktop or in the start menu of the “Admin” user or via the following path: „C:\Program Files\Jungheinrich\Clone Assistant\cloneass.exe”

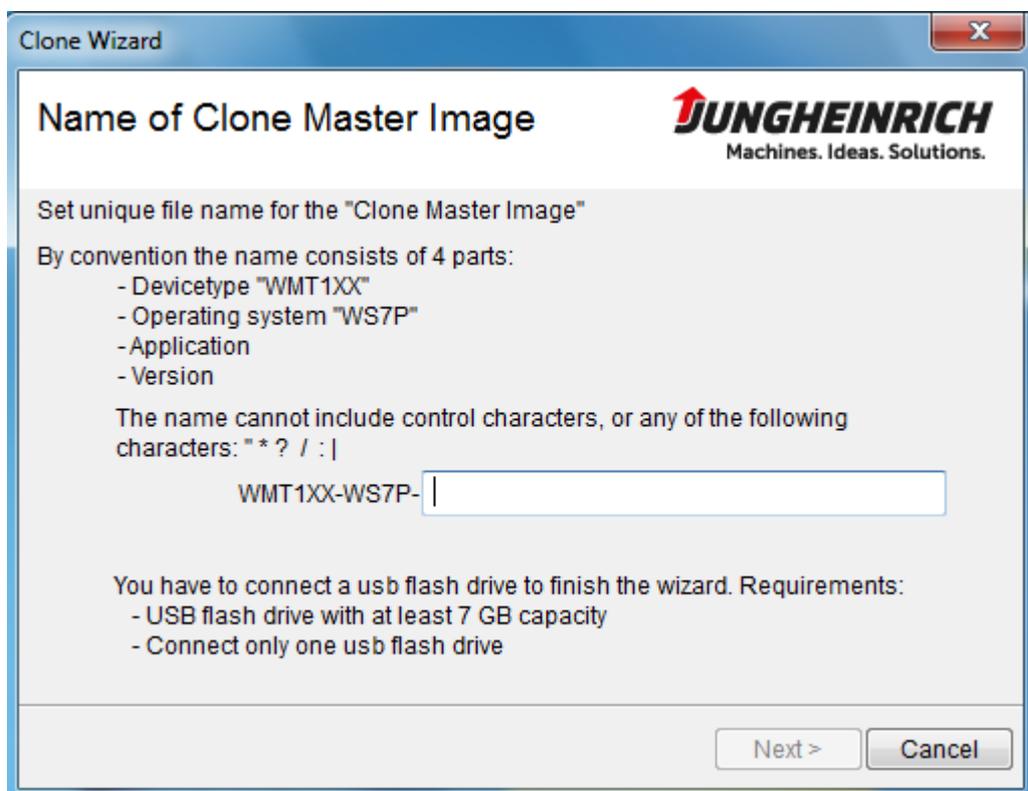
With enabled FBWF resp. UWF the following message appears:



If you confirm this with “Yes”, the WMT is automatically restarted and the Write Filter is deactivated. If you want to disable the FBWF/UWF manually and restart the WMT, select “No”. Then restart the Clone Wizard to continue with the Clone Master Image.



Commit with „Next”



Choose an appropriate name for the backup file and connect a USB stick (8GB or more).

Note

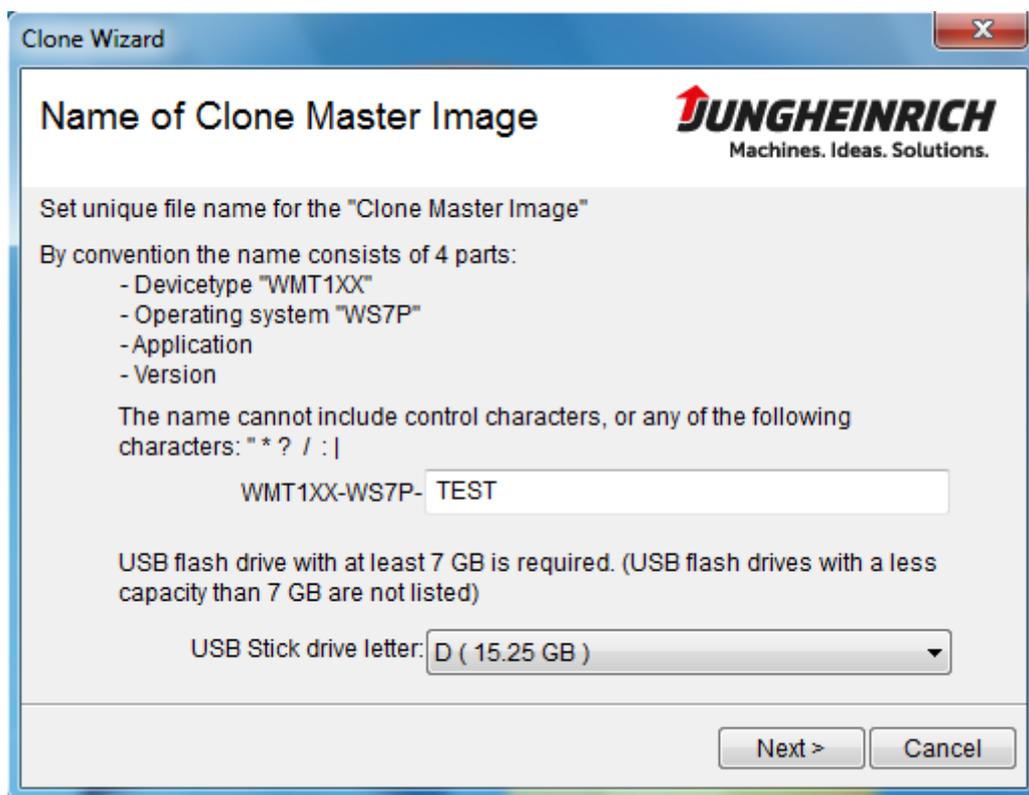
The size of the USB stick depends on the memory space occupied by the WMT and can be larger depending on the storage space requirement.

Note

Note that only one USB storage device may be connected to the WMT during the Clone process.

Note

The “Next” button is only available if all conditions are met.



If all conditions are fulfilled, continue with “Next”.

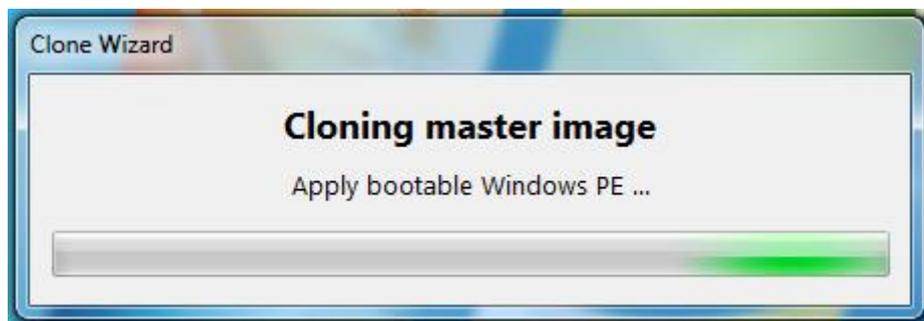
Select the language and regional settings for the Clone master image and confirm with “Next”. To save disk space, the “Other languages shall be removed” option can be used to exclude unneeded languages from the backup.



Read the overview page carefully and then start the Clone process with “Finish”.

Note

All data on the USB stick will be deleted and cannot be restored.



The WMT automatically restarts and boots the “Jungheinrich Backup and Recovery System”, which automatically performs the backup of the Clone master image. After completion of the Clone master backup, the WMT is automatically restarted and booted from the internal memory card. The master clone image is created under “X: \ images \ WMT1XX-WS7P - << filename >>. Wim” where << filename >> corresponds to the previously entered name and “X:” is the drive letter of the USB stick. To restore the image, use this file when creating the USB installation stick (see previous chapter).

8. Operating Systems

All Jungheinrich WMTs have a feature number on the back. This number can be used to draw conclusions on the preinstalled operating system. An embedded operating system (WES7, Windows 10 IoT) installed on a WMT contains a customized Jungheinrich image with additional software.

Feature-Number	OS	OS and driver	Storage
WMT11x-xxxxxxxxxSx	Windows Embedded Standard 7 (32 bit)	Yes	Partition C: 23.3 GB Partition D: 6 GB
WMT11x-xxxxxxxxxEx	Windows 10 IoT Enterprise	Yes	Partition C: 29 GB

Note: Only the pre-licensed operating system may be used. If a customer wants to run a different operating system that deviates from the pre-licensed operating system, the customer is responsible for a valid license. The license sticker can be viewed in the service bay.

The Windows Embedded operating system is designed for industrial use and provides additional features for example, the write protection function or special driver handling. Manufacturers of so-called embedded devices can select in detail the software components which are to be included in the operating system image. This allows hardware manufacturers of microPC's that have limited storage capacity to fine-tune your operating system to the hardware without installing unnecessary software components while benefiting from lower licensing costs. Jungheinrich has decided to install almost all the features for the WMT110 / WMT 115, thus providing an operating system that is comparable (or nearly identical) to a "full" Windows operating system. The following list gives an overview of the included software components.

8.1 Windows 10 IoT Enterprise

WMT Win 10 IoT Enterprise deviates from WMT 10 Enterprise (component not included or disabled):

- Cortana (Windows Assistant)
- Windows Store
- Windows Edge (Browser)
- Windows Defender
- Windows Updates (disabled – see 5.4)
- Allow edge swipe (disabled)
- Windows Firewall (disabled)

Additional Software components included in WMT Win 10 IoT Enterprise:

- Sumatra PDF 3.1.2
- Elo Touch Solutions EloMultiTouch 6.9.17.5
- Intel® Graphics Driver 10.18.10.5069
- Jungheinrich Device Tools 5.0.561
- Microsoft Visual C++ 2015-2019 Redistributable (x64/x86) – 14.22.27821.0
- PEAK-Drivers
- BGInfo
- Jungheinrich WMT Setup Wizard
- Jungheinrich WMT Clone Wizard

8.2 Windows Embedded Standard 7

Included Software Components in the WMT WES7 Installation Image:

WE7P SP1 (32 bit), .Net Framework 2.0 & 3.5; Application Support (COM OLE, COM+), Win32 Runtime & Libraries, Boot Environments: Windows Boot Environment, Internet Explorer 8, Windows Data Access Components (SQL), all Data Integrity features; Device framework, Device User Experience, Driver Frameworks, Fax and Scan, Printing Utilities and Management, Standard Windows USB Stack, Diagnostics, File Based Write Filter, Ram Disk Controller, Registry Filter, Default Fonts, Audio and Video Engines and Media Foundation, DirectX and Windows Device Experience, Graphics Platform, Image Mastering API V2, Microsoft AC3 Encoder, Windows Media Player 12, IME, International Components and Language Services, Language Pack Setup, IIS 7.0, Windows Process Activation Service, Power Management, System Management, Windows Application Compatibility, Windows PowerShell 2.0, Windows Update, Networking (Base, BITS, Bluetooth, Domain Services, IRDA and UNIMODEM, Network Access Protection, Network and Sharing Center, Network Diagnostics, Peer Networking, Quality of Service, Remote Access Service (RAS), Small Networking Services, Telephony API Client, Windows Firewall, Windows Networking, Remote Desktop Connections, Active Directory Rights Management, Application Security, Encrypted File System (EFS) Security Base, Security Credentials, System Security Management, Windows Security Center, File System (Advanced File System, Core File System, File and Folder Synchronization, File Compression Utility, Remote Client, SMB), Remote Procedure Call, Windows Installer, Accessibility, Windows Help, Mobility Center and SideShow, Natural Language 6, Photo Viewer, Search Indexing, Tablet PC Support, Text Services Framework, Windows Search, Windows Shell, Languages: English, German, French, Italian, Spanish

Removed software components in the WMT WES7 installation image:

MSMQ, Sensor and Location Platform, Dialog Box Filter, Hide Boot Screens, Keyboard Filter, Message Box Default Reply, SD Boot, WSDAPI for .Net, Licensed Decoders such as Microsoft DTV-DVD Audio Decoder (MPEG-2, AAC & MPEG-2, H.264), MPEG Layer-3 Audio Codecs (MP3), MPEG-2 Audio and Video Encoder, MPEG-4 Decoders, Windows Media Video Codecs (VC-1), Parental Control, Media Center, Telnet Server, AntiMalware, Bitlocker Secure Startup, TPM Management, DVD Maker, Microsoft Speech API