Gate ~ FMCU ~ Benutzerhandbuch/en

Inhaltsverzeichnis

Introduction

The document describes the functions and configuration options of the software **F**acility **M**anagement **C**ontrol **U**nit.

The Facility Management Control Unit is software for access control management. It can be used in an enclosed area such as a sports or entertainment center, an airport zone, universities or security areas. The main components of the software solution are:

- An automated passage control with two-part door and signal lighting
- Barcode (or/and RFID) scanners that read identification data from the customer's ticket or card
- Tracking cameras observing the passage of customers
- Info screens showing inbound and outbound information to the customer
- One or more external speakers
- One or more additional monitors with content tailored to customer needs

The main features are:

- Opening access control upon successful ticket validation
- Interaction with customer in response to various events through:
  - Light effects
  - Voice prompts through internal or external speakers
  - Acoustic confirmation of the reading process from barcode scanners
  - Visual content displayed on an info screen
  - Safe opening and closing of the swing doors by monitoring the passage area

Supported operating modes:

- Normal
- Service
- Fire alarm
- Emergency

The variants of Entry Tickets:

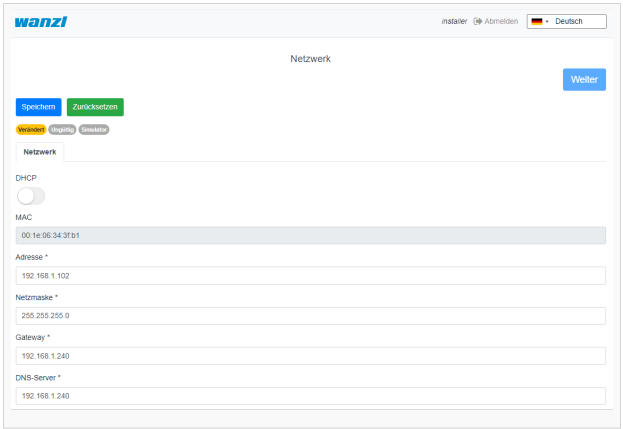
- Single entry ticket with closing of access control after passage of one person
- Multiple entry ticket with permanent access control
- Adjustable time intervals
- Consideration of additional conditions about potential-free contacts

Technical Information

Configuration

Step 1

After the software has been downloaded and transferred to the eMMC card according to the documented procedure, see also here Galaxy Gate Inbetriebnahme, the login screen appears after the first start. After logging in with the user *Installer*, the wizard with the definition of the IP configuration is started.



Parameter	Description	Default Value
Address	IP-Address of access control	192.168.1.100

Mask	Network-Mask	255.255.255.0
Gateway	Gateway-Address	192.168.1.1
DNS-Server	DNS-Server for name resolution	192.168.1.1

NOTE

The configuration always starts with the "Slave" side of the Galaxy Gate. This selection is preset in the assistant "No Device Slave".

As a type, you can basically make this selection in the assistant.

Configuration of the Facility Management Control Unit

Selection	Description
No Device Slave	Slave Unit (Default Selection)
Galaxy Gate (Modbus Serial)	Master-Unit mit serieller Verbindung zu Slave-Unit
Galaxy Gate (Modbus TCP)	Master-Unit with network connection to Slave-Unit
Galaxy Port (Modbus Serial)	Unit with serial connection to Slave-Unit
Galaxy Port (Modbus TCP)	Unit with network connection to Slave-Unit

Functions

Function	Description
AEA	Configuration for Boarding Gates
Immediate Closure	Closing the swivel arms without swivel range monitoring
Multiple Opening	Swivel arms remain open when multiple input signals are present
Personal Protection	Closing the swivel arms with swivel area monitoring
One-time opening	Single pass even when several input signals are present
Trolley Case	Support of trolley case without alarm
Wheelchair	Assistance from wheelchair without alarm

After the function has been selected, the combination of functions results in corresponding configuration types. The function selection is a filter for the resulting configuration type.

Configuration type from combination of functions

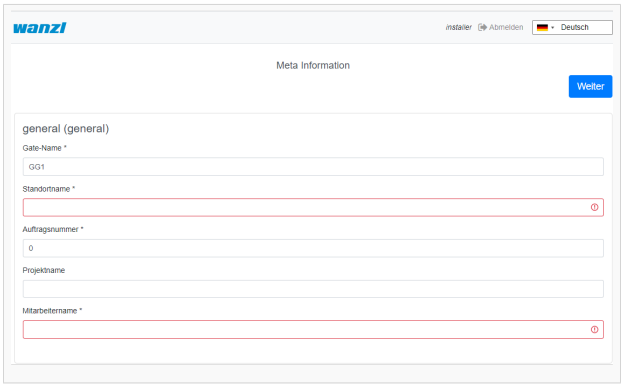
Configuration Type	Description
AEA	Configuration for Boarding Gates
One-time opening Personal Protection	Closing the swivel arms with swivel area monitoring
One-time opening Immediate Closure	Closing the swivel arms without swivel range monitoring

One-time opening Trolley Case	Single passage with trolley case even when several input signals are present
One-time opening Wheelchair	Single passage with a wheelchair even if several input signals are present
Multiple opening personal protection	Closing the swivel arms with swivel area monitoring
Multiple opening instant closure	Closing the swivel arms with swivel area monitoring
Multi-opening trolley case	Swivel arms remain open when several people with wheeled suitcases pass through
Multiple opening wheelchair	Swivel arms remain open when several people with wheeled suitcases pass through

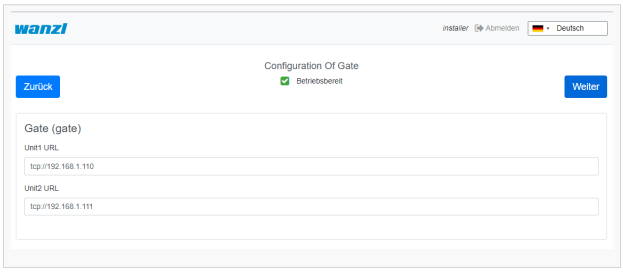
After choosing from the three lists, click on **Apply**, the application will be restarted, you have to wait for the start-up process to be completed. After logging in again, this screen appears.

NOTE

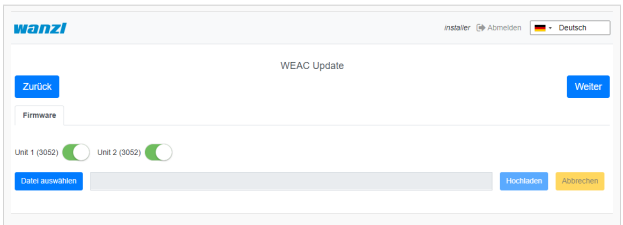
If you adjust the IP address in the configuration, you must also align the URL in the browser to the new IP address.



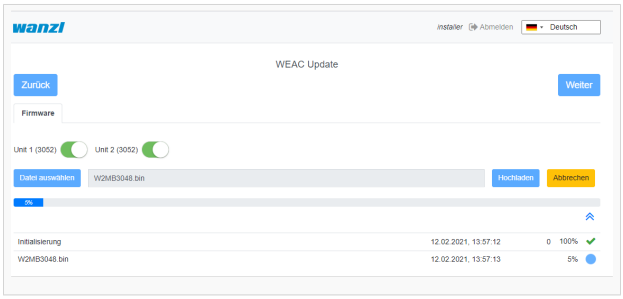
After the input fields have been filled in, you can click on **Next** to reach the next page of the wizard.



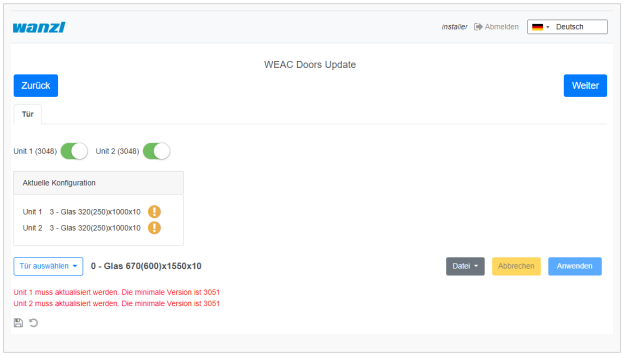
The current WEAC firmware is displayed on the next page of the wizard. If necessary, you can down or upgrade the firmware.



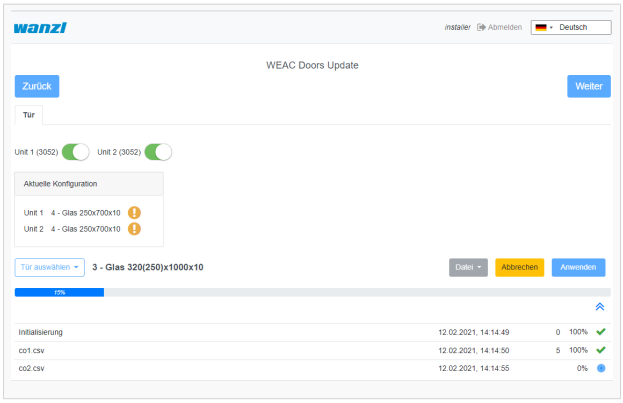
The firmware version for each unit is listed as a label next to the activation button. The navigation options are deactivated during the update process. The update process takes about 3 minutes for both units.



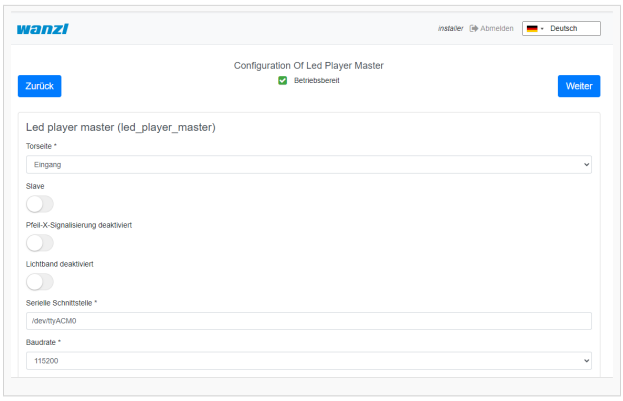
After checking the WEAC firmware, the swing doors are configured. It is automatically checked whether the minimum requirements regarding the firmware are met. You will be informed on the surface if the firmware has to be updated first.



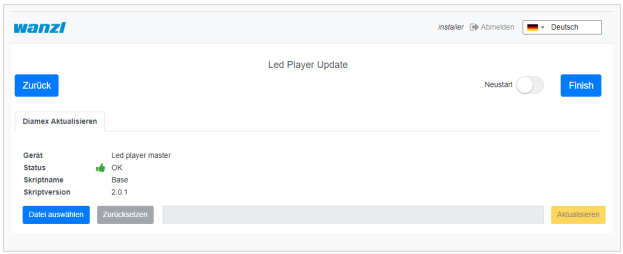
If the requirements are met, you can select the swing doors and apply them to the gate.



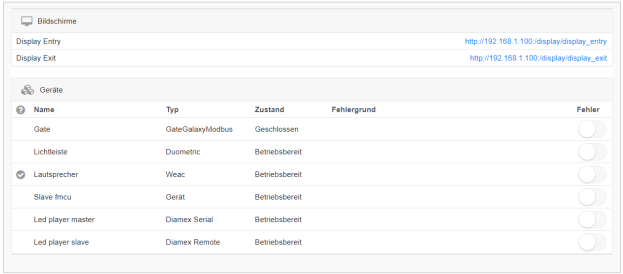
The next step is to configure the LED player for both units (Master and Slave) accomplished. If necessary, you can adjust the parameters. If the status is **ready for use**, no modifications are necessary.



The current firmware of the LED player is shown again on the last page of the assistant. Optionally, you can end the configuration with a restart. However, this is only necessary if IP addresses or interface information have changed.



After clicking **Finish**, you can now log in again with a known credentials and work with the Galaxy Gate. If you log in again with the user installer, you get a graphical overview, can find out about the status of the access control and can carry out updates if necessary. This completes the setup of the access control.

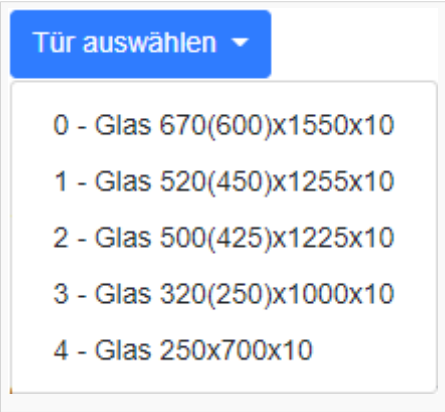


You can now log in with a service account and carry out further tests.

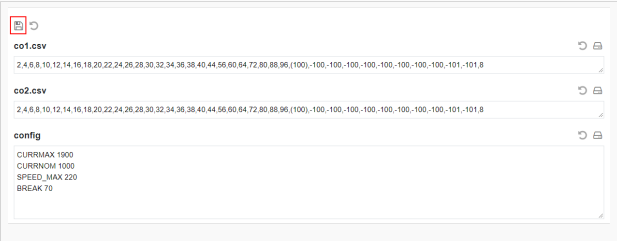
Operation Manual

Configuration of the Swing Doors

The swing doors can have different dimensions. Depending on the width and height, this results in other target parameters for optimal curve passage.



After a type has been selected, all parameters can be adjusted according to the needs in the interface before they are then activated via the button **Apply** in the configuration on the access control. If you change individual values in the display, the settings must first be saved. To do this, click on the diskette symbol on the left of the interface above the file list.

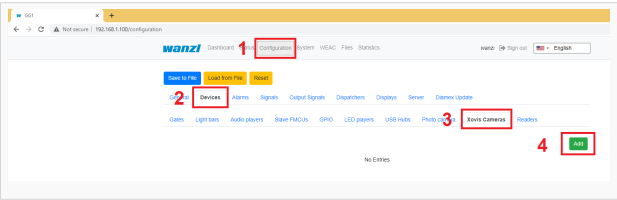


After the changes have been saved, you can activate them using the Apply button.

Configuration of the XOVIS Sensors

Add XOVIS-Sensor

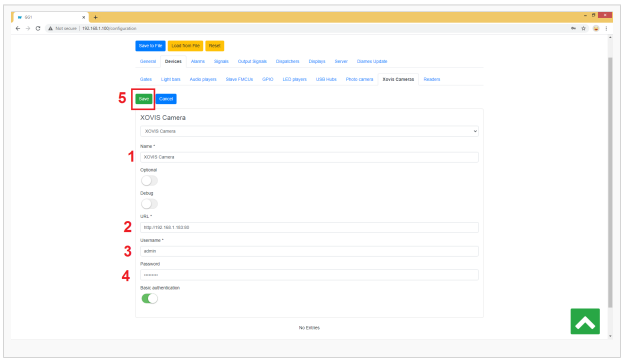
Navigate to "Configuration" -> "Devices" -> "Xovis Cameras" and then click on the "Add" button



The following fields are filled in the order shown:

1. Name
2. URL

3. Username
4. Password

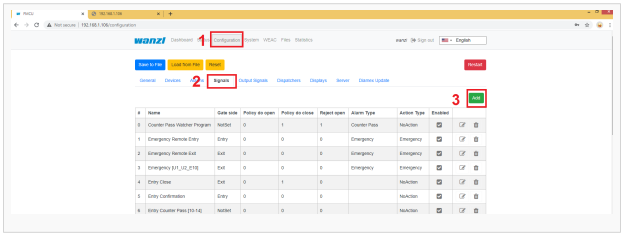


The configuration is saved by clicking the **Save** button.

> **NOTE**
>
> After adding the XOVIS sensor, the **FMCU** must be restarted before proceeding with the configuration.

Add XOVIS monitoring area as alarm signal

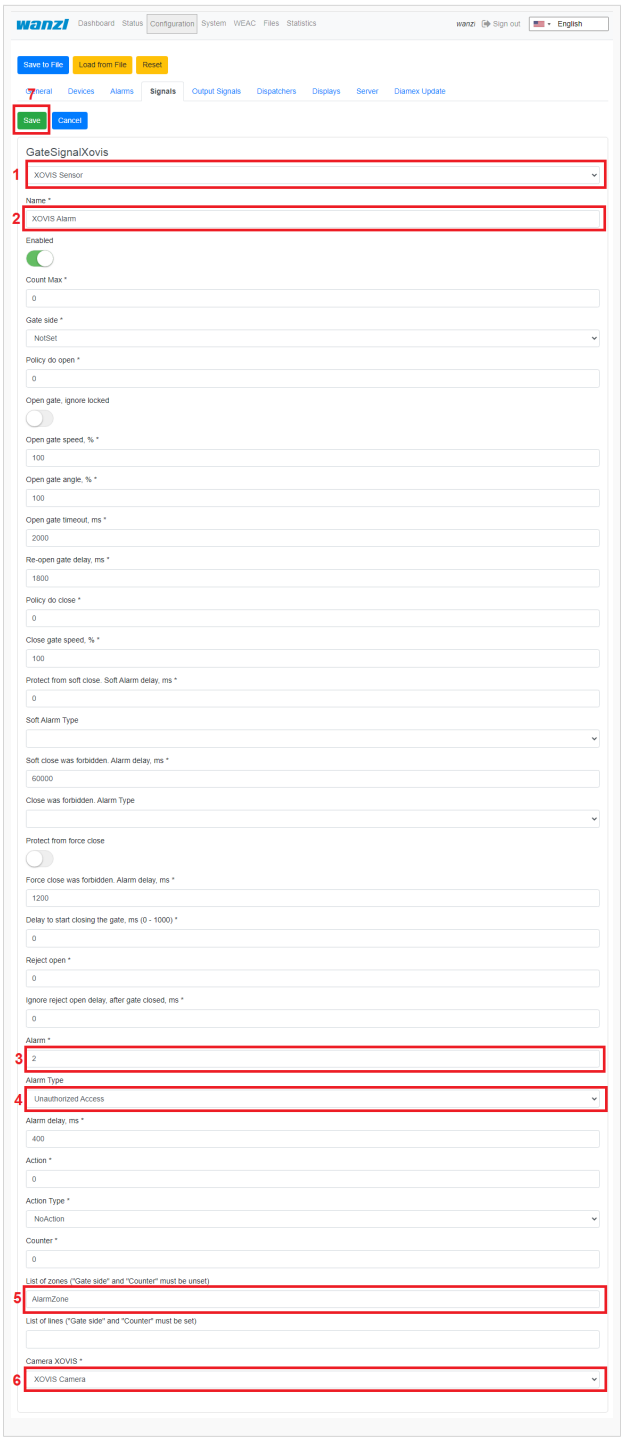
Navigate to "Configuration" -> "Signals" and then click on the "Add" button



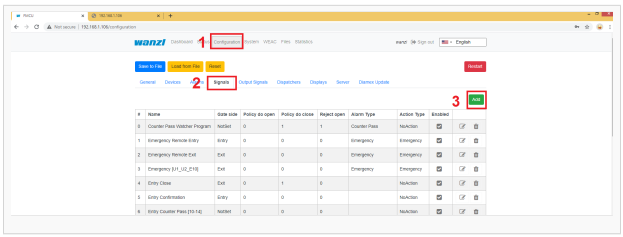
The following fields must be filled in here:

1. Select type "XOVIS Sensor"
2. Specify the name of the signal (e.g. "XOVIS ALARM")
3. Set the minimum number of people in the alarm zone to trigger an alarm (e.g. 2)
4. Select the alert type (e.g. "Unauthorized Access")
5. Determine a list of alarm zones (e.g. "AlarmZone")
6. Select the XOVIS sensor added to.

The configuration is saved by clicking the **Save** button.



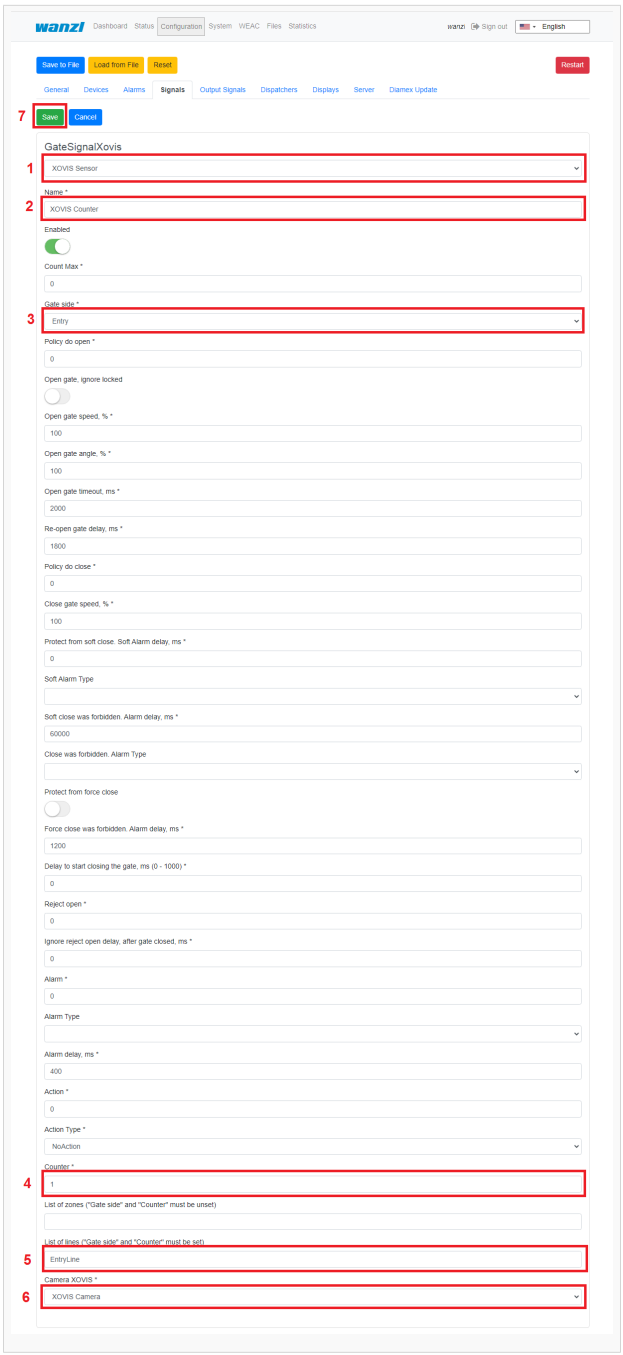
Add XOVIS counter Navigate to "Configuration" -> "Signals" and then click on the "Add" button



The following fields must be filled in here:

1. Select type "XOVIS Sensor".
2. Specify the name of the signal (e.g. "XOVIS Counter")
3. Specify the side of the gate (e.g. "Entrance")
4. Set the value "Counter".
5. Specify a list of lines(e.g. "EntryLine")
6. Select the XOVIS camera that you added earlier.

The configuration is saved by clicking the **Save** button.

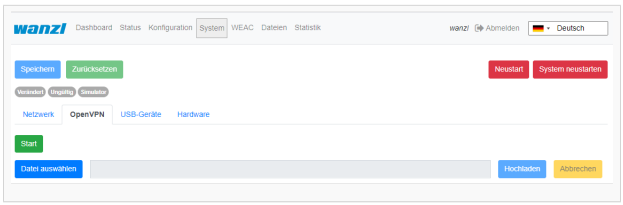


Store VPN key

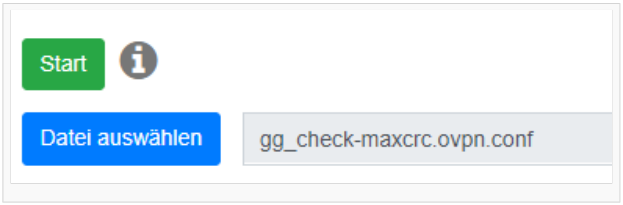
A VPN key is required to use remote maintenance. This key can be requested from maxcrc support (support@maxcrc.de) by specifying the project name (Configuration->General view).

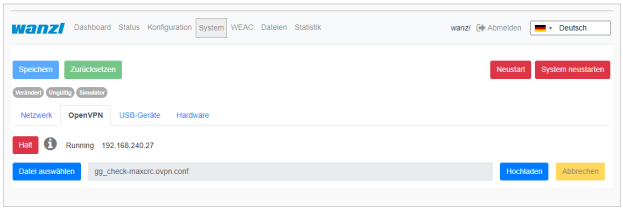
After the key file (*.opvn.conf) is available, you can import via the System->OpenVPN page. The following steps are necessary for this.

Navigating to the **System-OpenVPN** page.



This file is now specified via the **Select file** button in the file selection dialog. Then click on **Upload**. When the process has been successfully completed, an info icon will appear next to the start button. This means the file has been uploaded successfully, the OpenVPN client can now be activated by clicking on **Start**.

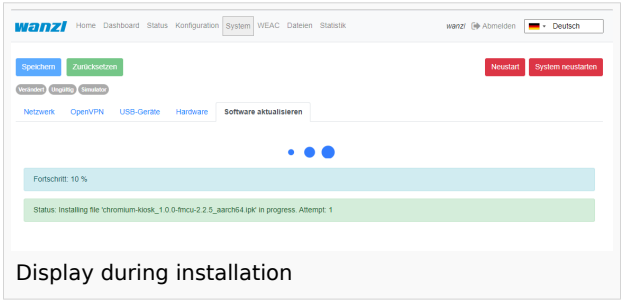




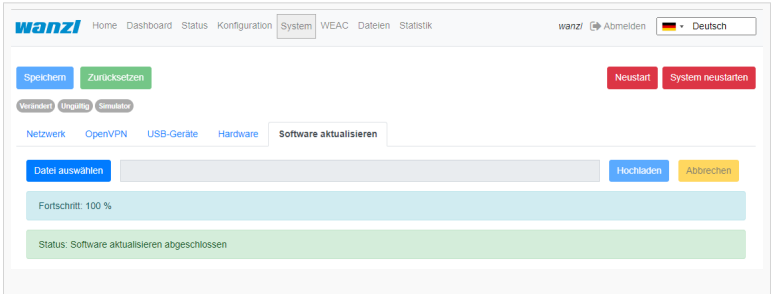
If the start was successful, the color changes from green to red and the label from start to stop. The status of the OpenVPN client and the IP address for access in the VPN network for this gate are displayed to the right of the info symbol. You can disable remote access by clicking the **Stop** button.

Softwareupdates

If there is no Internet connection, individual package installations can be carried out in the **System->Update software** menu. To do this, you create a zip archive with the packages to be installed beforehand. It must be ensured that no relative paths are used in the archive. Then you can insert the archive into the input line via **Select file** and start the update procedure with **Upload**. The progress process is displayed in the interface.



Display during installation



Anzeige nach Abschluss der Installation

If necessary, the application can be restarted.

Customer Role

When you log in with the user client, a simplified interface appears with only three configuration menus "Home", "Status", "Statistics".

In this view you can administrate the access control, but you cannot make any configuration adjustments. The current statistics are displayed directly on the interface, a complete overview of the accesses can be viewed in the **Statistics** tab and exported if required. The current status of the individual access control components can be viewed in the **Status** tab. The **Cleaning** option disables all alarms to make the cleaning staff's job easier. The **Emergency open** option supports the user in opening the access control immediately.

Standard assignment connection board

Unit 1

Port	Function	Description
LSU (E1)	LS Middle *Center Light barrier*	NO *Normally Open Contact*
LSV (E2)	LS Entry *Photocell Input*	NO *normally open contact*
E3	Open Entry *Single free entry direction Impuls 0,1-1,0 Sek.*	NO *Normally Open Contact*
E4	Open Exit *Single free exit direction Impuls 0,1-1,0 Sek.*	NO *normally open contact*
LSH (E5)	NA *not connected*	

E6	State bit 0 *Status bit 0*	NO *normally open contact*
E7	State bit 1 *Status bit 1*	NO *normally open contact*
E8	Fire Alarm *fire alarm system (BMA)*	NC *normally closed contact*
E9	Open Entry 70% *Einzelfrei 70% Input Direction Impuls 0,1-1,0 Sek.*	NO *normally open contact*
E10	Emergency Open Button *emergency button*	NC *normally closed contact*
A8	Entry Confirmation *Confirmation of passage entry direction Impuls 0,5 Sek.*	+12 VDC
A9	Exit Confirmation *Confirmation of passage exit direction Impuls 0,5 Sek.*	+12 VDC

Unit 2

Port	Function	Description
LSU (E1)	NA *not connected*	
LSV (E2)	NA *not connected*	
E3	Open Entry *Single free entry direction Impuls 0,1-1,0 Sek.*	NO *normally open contact*
E4	Open Exit *Single free exit direction Impuls 0,1-1,0 Sek.*	NO *normally open contact*
LSH (E5)	LS Exit *Photocell exit*	NO *normally open contact*

E6	State bit 2 *Status bit 2*	NO *normally open contact*
E7	State bit 3 *status bit 3*	NO *normally open contact*
E8	Fire Alarm *fire alarm system (BMA)*	NC *normally closed contact*
E9	Open Exit 70% *single free 70% exit direction Impuls 0,1-1,0 Sek.*	NO *normally open contact*
E10	Emergency Open Button *emergency button*	NC *normally closed contact*
A8	Alarm Impuls *Alarm Impuls 0,5 Sek.*	+12 VDC
A9	Gate State Error *error condition Durchgang*	+12 VDC

Status Zustandsbits

Status	Unit 1 E6 Bit 0	Unit 1 E7 Bit 1	Unit 2 E6 Bit 2	Unit 2 E7 Bit 3
Normal *Normal*	**0**	**0**	**0**	**0**
Free Entry *Entrance permanently free*	**1**	**0**	**0**	**0**
Lock Entry *entrance blocked*	**0**	**1**	**0**	**0**
Service Entry *Permanently open entry direction*	**1**	**1**	**0**	**0**
Free Exit				

Exit permanently free	**0**	**0**	**1**	**0**
Free Entry/Exit *Input/Output permanently free(**Not implemented**)*	**1**	**0**	**1**	**0**
Lock Entry / Free Exit *Entrance blocked / exit permanently free*	**0**	**1**	**1**	**0**
tbd	**1**	**1**	**1**	**0**
Lock Exit *exit blocked*	**0**	**0**	**0**	**1**
Free Entry / Lock Exit *Entrance permanently free / exit blocked*	**1**	**0**	**0**	**1**
Lock *Gesperrt*	**0**	**1**	**0**	**1**
tbd	**1**	**1**	**0**	**1**
Service Exit *Permanently open exit direction*	**0**	**0**	**1**	**1**
tbd	**1**	**0**	**1**	**1**
tbd	**0**	**1**	**1**	**1**
Self Test *self test*	**1**	**1**	**1**	**1**

Alarmdefinition

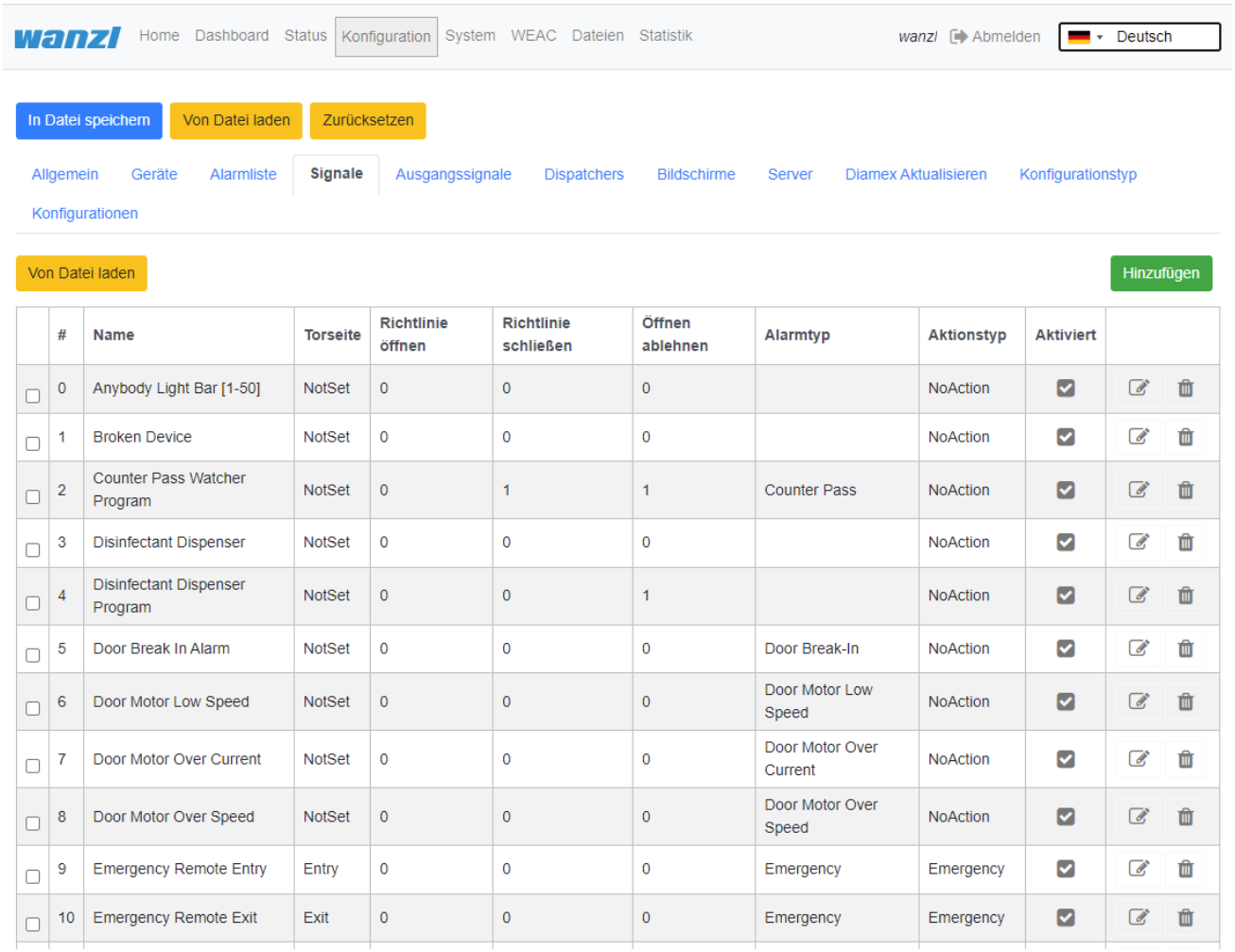
An alarm is triggered as a follow-up action from signals or other sources (e.g. devices). An alarm exists has several general characteristics. This includes a name, the definition of an action...

Definition	Description	Status

Connection Alive	monitors connection to external application	on/off
Connection Lost	monitors connection to external application	on/off
Counter Pass	is set by anti-rotation protection is activated	on/off
Door Break-In	Door is forcibly moved when closed	on/off
Emergency	is set if the signals on unit 1 E8 or unit 2 E8 are not active (opener).	on/off
Fire Alarm	is set if the signals on unit 1 E10 or unit 2 E10 are not active (opener).	on/off
Invalid Ticket	is set if ticket validation fails	Impuls
Motionless Object	is set when an object is in the gate area for more than a defined period of time and closing is prevented by a timeout.	on/off
No Alarm	is set if no alarm is defined for signals	on/off
Proceed Alarm	analogous to Motionless Object with a different time span and other actions without light indication	on/off
Server Alarm	is triggered in the FMCU server	on/off
Tailgating	is set if more than one person is in the gate area	on/off
Unauthorized Access	is set if a person is in the gate area when the gate is closed	on/off
Valid Ticket	is set if the ticket validation was successful (trigger beep)	Impuls

Signale

Die Informationen in diesem Abschnitt basieren auf der FMCU-Software v2.3.7 und der WEAC-Version 32.14.



	#	Name	Torseite	Richtlinie öffnen	Richtlinie schließen	Öffnen ablehnen	Alarmtyp	Aktionstyp	Aktiviert	
☐	0	Anybody Light Bar [1-50]	NotSet	0	0	0		NoAction	☑	
☐	1	Broken Device	NotSet	0	0	0		NoAction	☑	
☐	2	Counter Pass Watcher Program	NotSet	0	1	1	Counter Pass	NoAction	☑	
☐	3	Disinfectant Dispenser	NotSet	0	0	0		NoAction	☑	
☐	4	Disinfectant Dispenser Program	NotSet	0	0	1		NoAction	☑	
☐	5	Door Break In Alarm	NotSet	0	0	0	Door Break-In	NoAction	☑	
☐	6	Door Motor Low Speed	NotSet	0	0	0	Door Motor Low Speed	NoAction	☑	
☐	7	Door Motor Over Current	NotSet	0	0	0	Door Motor Over Current	NoAction	☑	
☐	8	Door Motor Over Speed	NotSet	0	0	0	Door Motor Over Speed	NoAction	☑	
☐	9	Emergency Remote Entry	Entry	0	0	0	Emergency	Emergency	☑	
☐	10	Emergency Remote Exit	Exit	0	0	0	Emergency	Emergency	☑	

Technischer Hintergrund

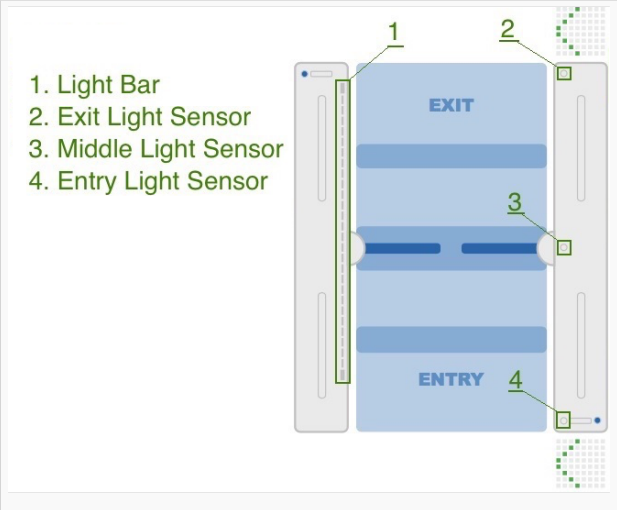
Die Software **FMCU** basiert auf einem angepassten UNIX-Betriebssystem, welche unter Anwendung des Yocto-Projektes produziert worden ist. Es werden nur die benötigten Dienste im Betriebssystem aktiviert. Es werden die für den CPU-Typ optimalen Unterstützungspakete bei der Erstellung des Betriebssystems berücksichtigt. Diese sogenannten **B**oard **S**upport **P**ackages (BSP) werden von den Hardwareherstellern zur Verfügung gestellt und gestatten eine optimale und effiziente Ausnutzung der Hardwareressourcen.

Funktionen

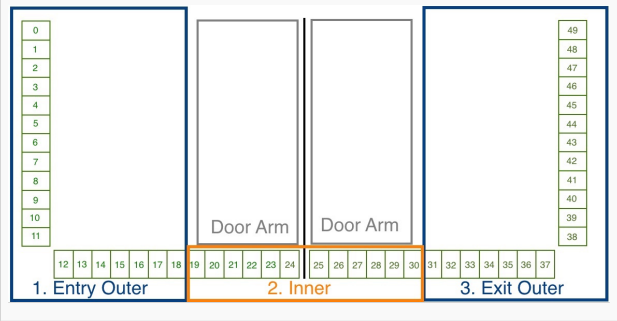
Grundsätzlich werden die Funktionen über die Signalverabeitung abgebildet. Die Signale werden durchunterschiedliche Quellen erzeugt. Dazu gehören:

- Lichtleiste
- Lichtsensor
- Deckensensor
- Sonstige

Die Anordnung der Sensoren ist in der nachfolgenden Abbildung dargestellt. In jeder Rahmenhälfte befindet sich eine sogenannte "Inner-Zone" und eine "Outer-Zone". Bei Durchschreiten einer Zutrittskontrolle wird ein Signalflussdiagramm erzeugt, welches für die Abbildung der nachfolgenden Funktionen genutzt wird.



Die Lichtleiste dienst als Quelle für mehrere Signale und ist ebenfalls in unterschiedliche Bereiche unterteilt.



In der Standardkonfiguration sind folgende Signale konfiguriert.

Signalname	Rahmenhälfte
Entry Confirmation	Eingang
Entry Gate Sensor [U1_E2]	Eingang
Entry Outer LightBar	Eingang
Exit Inner LightBar	Eingang
Free Entry [1000]	Eingang
Lock Entry [0100]	Eingang
Open Entry [U1_U2_E3]	Eingang
Open Entry 70% [U1_E9]	Eingang
Remote Open Entry	Eingang
Service Entry [1100]	Eingang
Emergency Remote	Ausgang

Emergency [U1_U2_E8]	Ausgang
Entry Inner LightBar	Ausgang
Exit Confirmation	Ausgang
Exit Gate Sensor [U2_E5]	Ausgang
Exit Outer LightBar	Ausgang
Free Exit [0010]	Ausgang
Lock Exit [0001]	Ausgang
Open Exit [U1_U2_E4]	Ausgang
Open Exit 70% [U2_E9]	Ausgang
Remote Open Exit	Ausgang
Service Exit [0011]	Ausgang

Schliessfahrt mit reduzierter Geschwindigkeit

Diese Funktion ist für Signale zutreffend, die die Eigenschaft **CloseGate > 0** aufweisen. Bei den betroffenen Signalen muss der Wert **Close gate speed, % *** mit einem Wert zwischen 10 und 100% definiert werden. Es besteht somit die Möglichkeit, für unterschiedliche Durchgangszenarien entsprechende Schließgeschwindigkeiten zu definieren. Der Standardwert ist auf 100% festgelegt. In der Standardkonfiguration erfüllen folgende Signale diese Voraussetzung.

Signal	Parameter	Wert
Tailgating watcher	Close gate speed, % *	100%
Entry Gate Sensor [U1_E2]	Close gate speed, % *	100%
Exit Gate Sensor [U2_E5]	Close gate speed, % *	100%
Entry Outer LightBar	Close gate speed, % *	100%
Exit Outer LightBar Exit	Close gate speed, % *	100%

Durchgangsbestätigung

Diese Funktion setzt einen Impuls mit einer einstellbaren Zeitdauer im Anschlussboard für den Anschluss **A8**. Zusätzlich wird erfolgte Durchgang in der Statistik berücksichtigt.

Koffertrolleyerkennung

Diese Funktion ist aktiv wenn bei folgenden Signalen die aufgeführten Parameter gesetzt werden. Es bedeutet, dass eine Personen mit einem hinter sich herziehenden Koffer ohne Störung durch vorzeitig schleißende Schwenktüren passieren kann.

Signal	Parameter	Wert
Middle Gate Sensor [U1_E1]	Protect from force close	true
Inner LightBar	Protect from force close	true

Mehrfachöffnung

Diese Funktion ist nur dann gültig, wenn ein Leser für die Eingangsrichtung eingerichtet worden ist. Es bedeutet, dass mehrere Personen in einer Reihe nacheinander den Eingang passieren können, ohne dass die Schwenktür zwischenzeitlich geschlossen wird. Es muss von jeder Person ein Ticket am Kartenleser am Eingang präsentiert werden. Nur bei erfolgreicher Validierung bleiben die Schwenktüren geöffnet. Diese Funktion ist aktiv wenn bei folgenden Signalen die aufgeführten Parameter gesetzt werden.

Signal	Parameter	Wert
Middle Gate Sensor [U1_E1]	Protect from force close	true
Inner LightBar	Protect from force close	true
Entry Outer LightBar	Protect from force close	true
Entry Gate Sensor [U1_E2]	Protect from force close	true
Tailgating watcher	Aktiviert	false

Tipps zum Arbeiten

Wenn man die Übersicht bei der Konfiguration der Signale verloren hat, kann man über die Funktion

Reset to Default

einen definierten Ausgangszustand wiederherstellen.

HINWEIS

Wenn man die Funktion "Rest to Default" anwendet, gehen die aktuellen Einstellungen verloren. Man kann bei Bedarf vor diesem Schritt die aktuelle Konfiguration exportieren.

Verwandte Themen

- Galaxy Gate Bedienungsanleitung
- Beschreibung zentrales Dashboard
- Galaxy Gate Inbetriebnahme
- Applikationsserver Zutrittskontrollen
- Zutrittskontrollen Checkliste IT Infrastruktur