cirQit Manual

Version 1.11.2 – July 2023

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Introduction

cirQit presents you cirQit, a web application. Our new digital circuit diagram pocket stores digitized circuit diagrams and documents. Therefore, no more paper folders kept in electrical control panels are needed. You can view circuit diagrams and documents by scanning a QR code (QRC) and change them on-line. The interconnected exchange of documents with everyone involved is simplified. Everyone has access to the current version.

cirQit is a browser-based web application. It is not necessary to install any application. The web application works in a system independent way, whether with iPhone, Android, Windows, Linux, or iOS.

This document is aimed at users of the cirQit Web App and explains individual functions in detail.

Workflow

Everything circulates. This is cirQit's vision! Whether developer, producer, installer, operator or service technician, everyone has access to the current version of electrical circuit diagrams and installation documentations throughout the entire life cycle of an electrical installation.

The project manager creates a device in the cirQit Cloud and uploads the circuit diagram and other documents to the new cloud space. He uploads the circuit diagram in PDF format, either as a document exported from CAD or scanned.

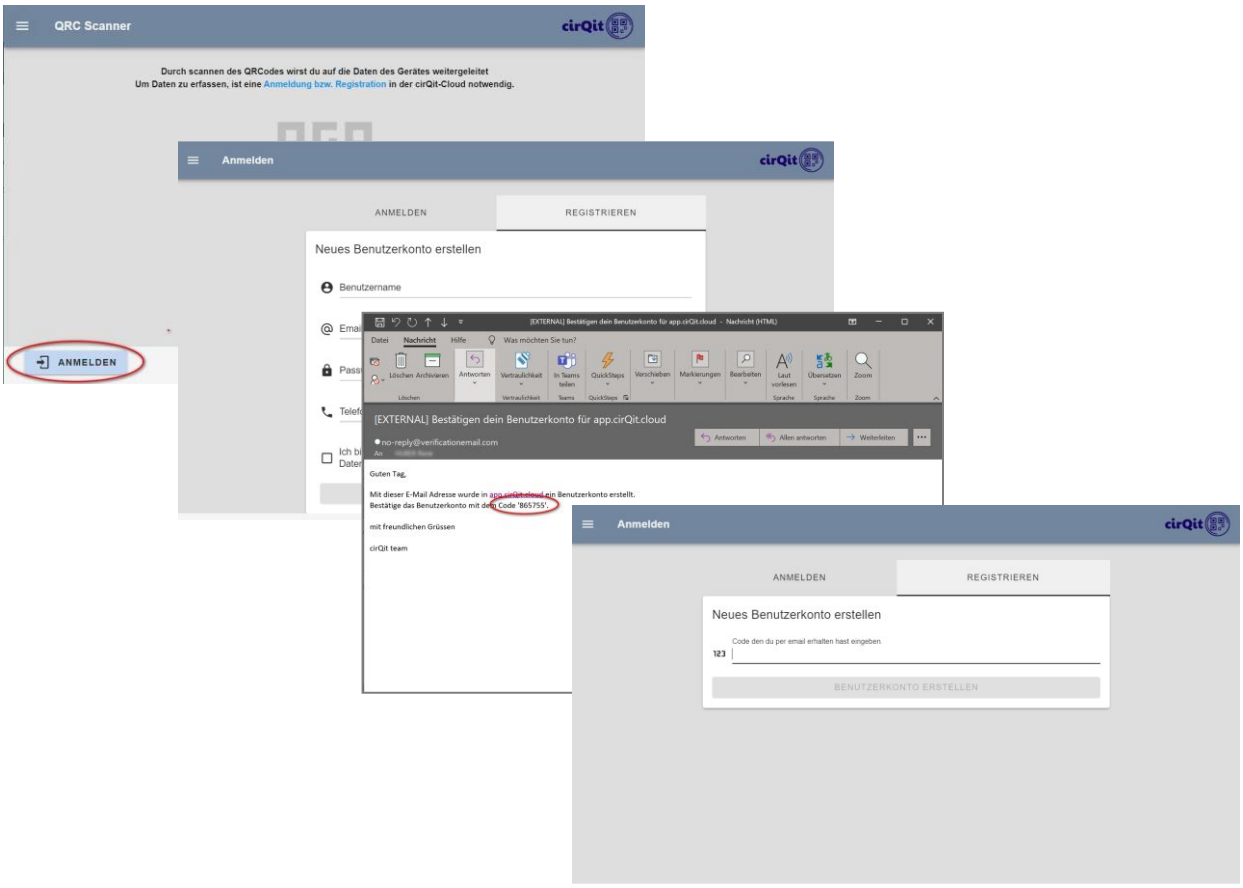
The fitter creates a electrical control panel or an installation using the current circuit diagram. Everyone can directly track any changes in the cirQit Web App via an integrated editor.

The electrical draughtsman receives a notification upon a change made by the fitter. The draughtsman transfers the said change to the CAD-system. The system reloads the new version on the cirQit Cloud as a PDF file.

Whether or not the change has been added to the CAD-system,

cirQit gives everyone involved a permanent access to the current circuit diagram.

Register



Start with “Register”. Create a username of maximum 128 characters with no spaces. Your password should contain at least 6 characters with at least one capital letter.

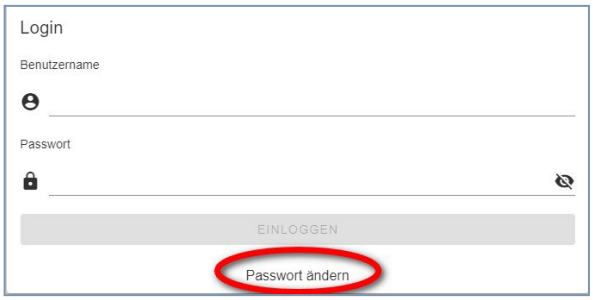
cirQit sends you a 6-digit one-time code to confirm your e-mail address. Then log in with your username and password.

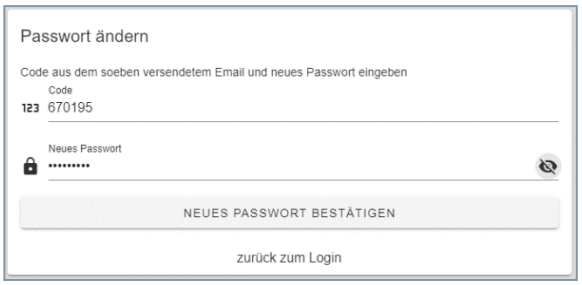
The default is to only give to unregistered users the read rights on public and private devices. Registered users have the administrator rights on public devices. For further rights on private devices, see “User management”.

Reset Password / Activate Account

For security reasons, users should regularly change their password. After clicking “Change password” and entering the username, cirQit sends to the user a 6-digit one-time code.

After entering the one-time code, the user can reset the password.

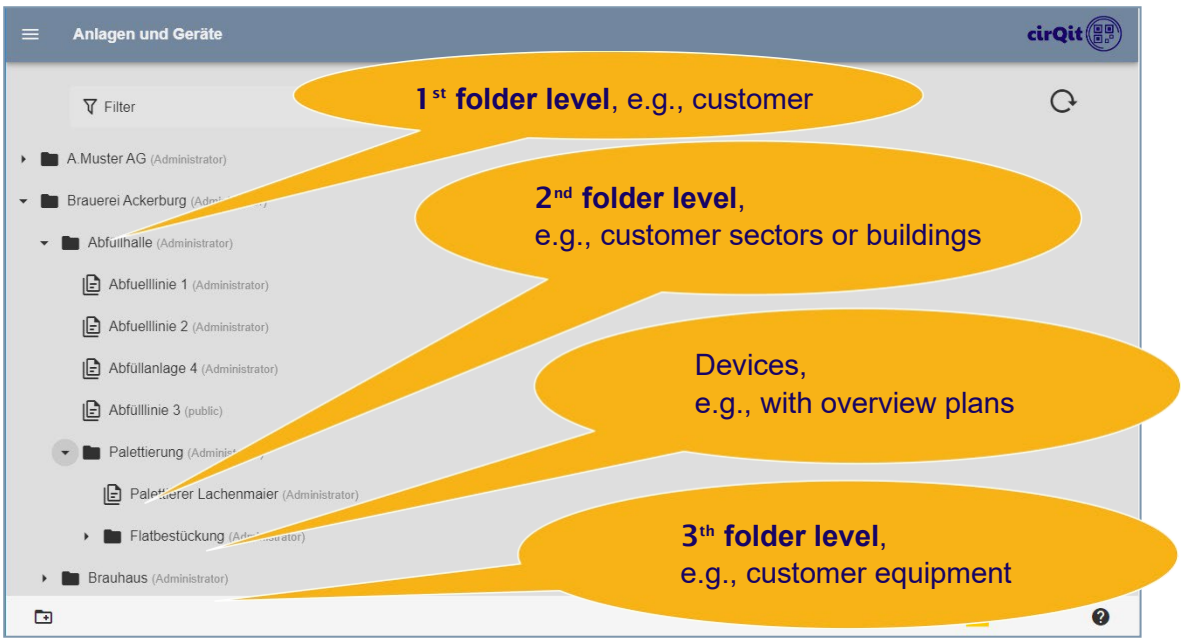




Create folders hierarchy

Start with **"Add folder"**, create a folder and name it with the name of your customer or client.

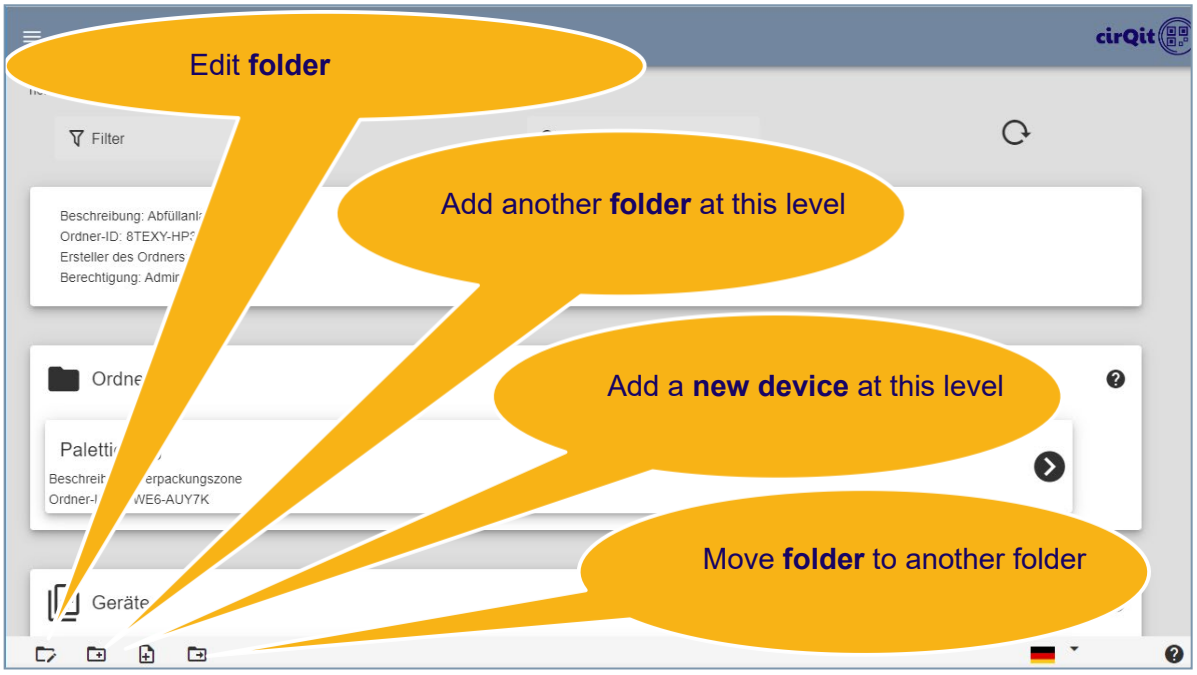
If necessary, create **other subfolders**, e.g., for buildings, sectors, or customer installations. The folder structure is recursive. It means that you can create any number of levels.



Create Device

It is possible to add one or more digital circuit diagram pockets (devices) to one folder. You can add devices at any folder level. However, it is not possible to create a device in the home directory.

Creating a device is liable to pay costs!



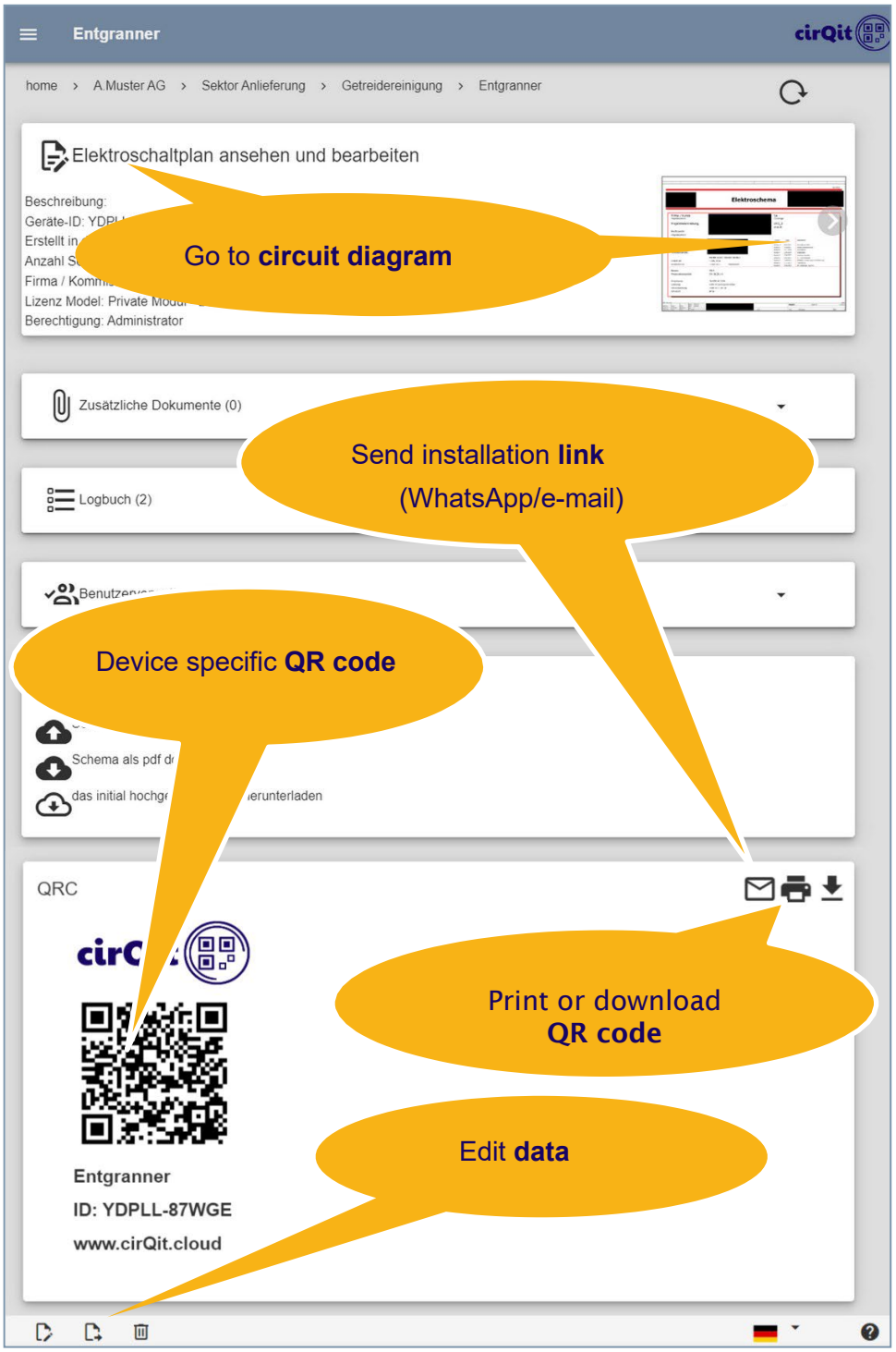
In cirQit, one device corresponds to one component that is assigned to one installation, one sector or one client. It is possible to upload one editable circuit diagram for each cirQit device. You can add additional documents as attachments to the device. Storage space per device is limited to 500 MB. You can book additional storage space for a fee per device.

A device is, e.g., a control or switching panel, a fuse distribution, a single rack, a decentralized PLC module, a single-occupancy residential unit or a residential unit in a multi-occupancy residential unit, etc.

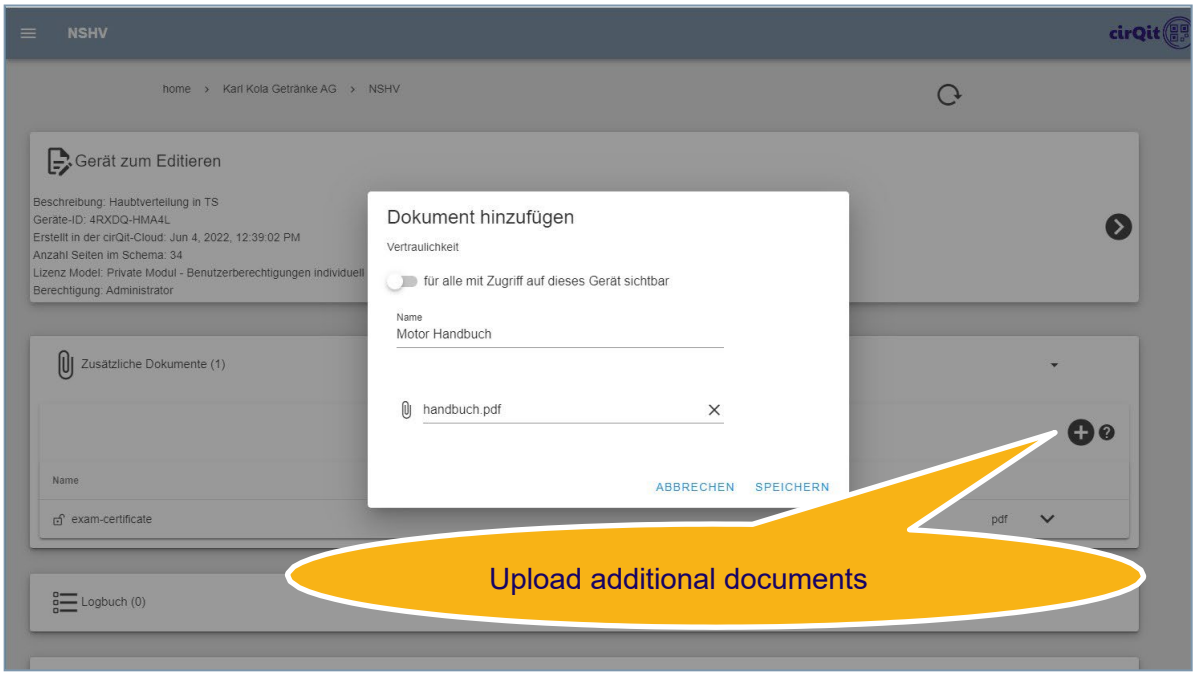
If an installation includes several electrical control panels with individual partial circuit diagrams, create one device for each cabinet. You can alternatively create one device for the entire system and combine all partial circuit diagrams into a single circuit diagram.

Since cirQit is optimized for mobile devices, we recommend limiting circuit diagrams to around 300 pages to ensure its best performance.

Digital Circuit Diagram Pocket (Alias Device)



Additional Documents



As a supplement to the circuit diagram, you can upload all kinds of documents to the digital circuit diagram pocket.

- Manuals for components of the device
- Parameter data
- SINA/MPP
- PLC program code
- Photos of the installation
- Bills of materials
- Acceptance reports
- …

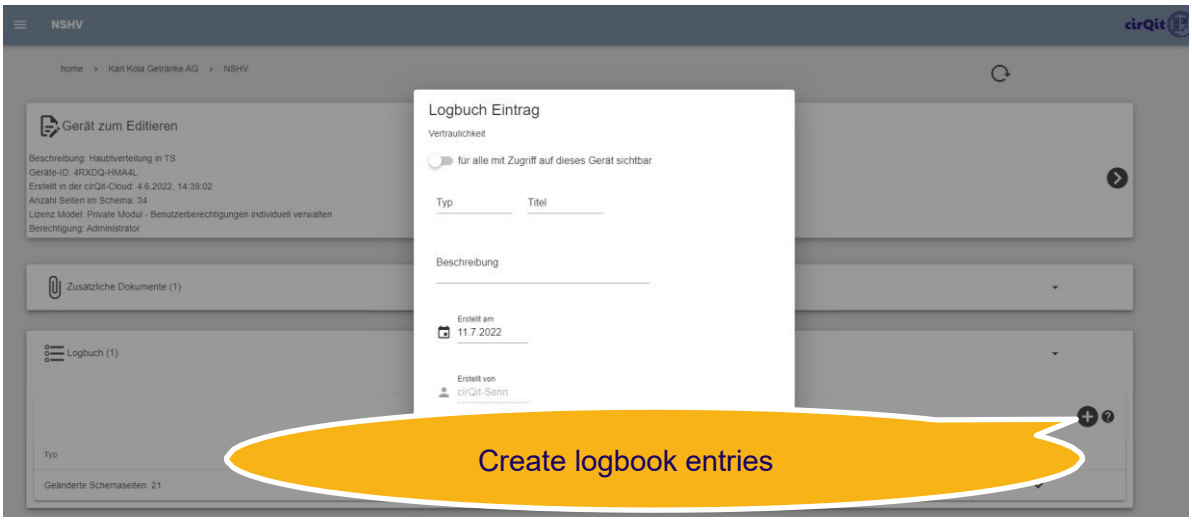
It is possible to upload multiple documents at the same time. If a document with the same name already exists, the user must confirm that it should be overwritten.

Confidentiality of Additional Documents

In the case of private devices, you can restrict the visibility of confidential documents. If you select “Visible to administrators only”, the document remains hidden for all non-administrators.

A user having the read & write rights can edit the device. However, he does not see the hidden documents such as the offer or statement of accounts.

Logbook



You can document the work on the device in the device logbook. As with additional documents in private devices, you can restrict the visibility of the logbook so that the administrator is the only person allowed to see the confidential entries.

You can freely select attributes such as “Type” and “Title”. The type can be, e.g., “Service”, “Adjustment”, “Control” or similar.

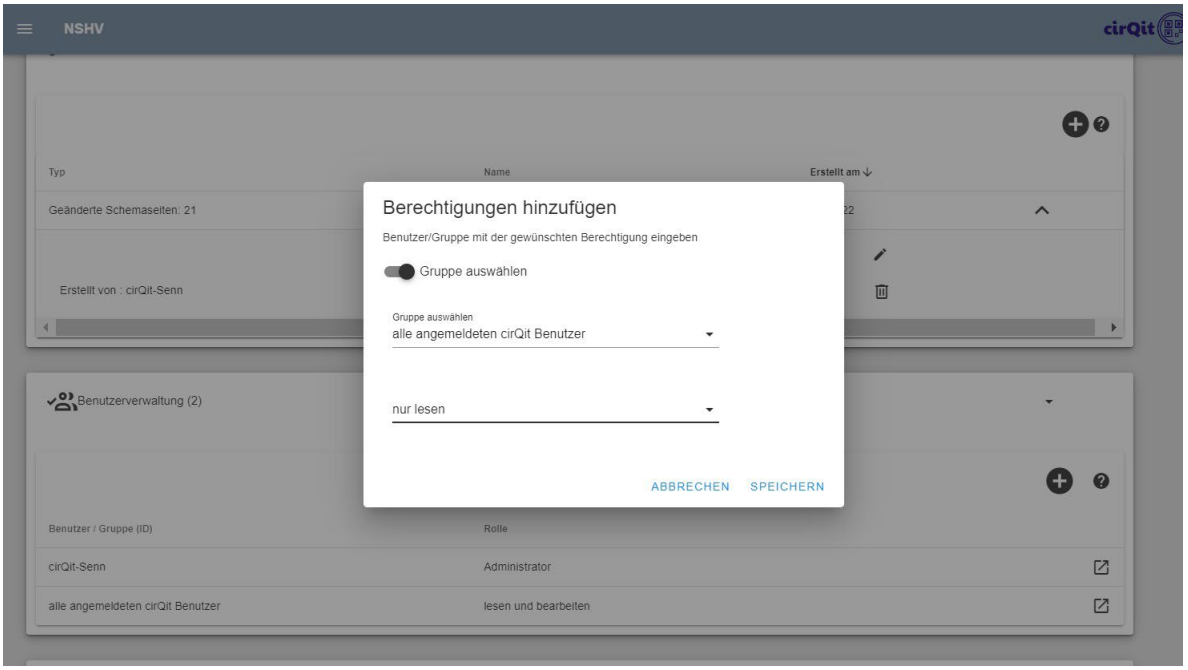
It is possible to change the date of the logbook entry, e.g., to record a work from the previous day.

Generated Logbook Entries

Typ	Name	Erstellt am ↓
Geänderte Schemaseiten: 21	edited	8.7.2022
Erstellt von : cirQit-Senn		

cirQit automatically creates a logbook entry after uploading or editing the circuit diagram. You can subsequently supplement the logbook entry with further details.

User Management of Devices



You can assign the user rights at the folder level or, for private devices, also in the individual device. The device inherits permissions from the parent folders. You can grant additional permissions. It is not possible to restrict the inherited permissions.

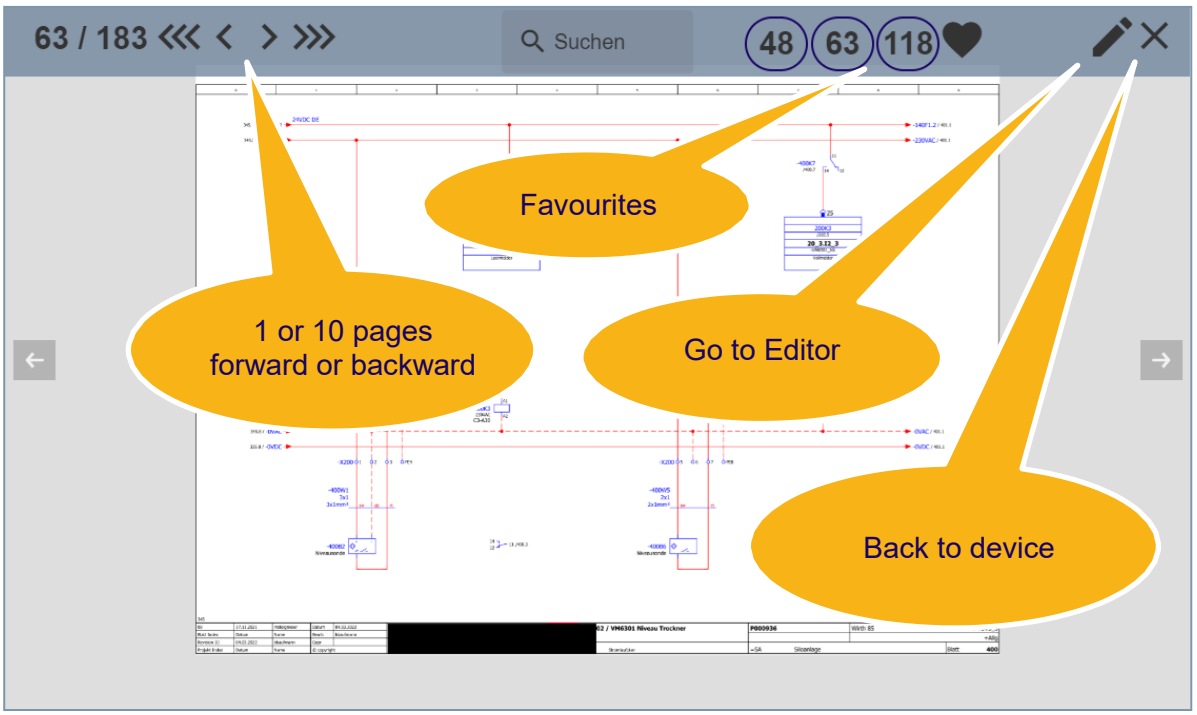
For more details about user permissions, see the chapter below.

QR Code (QRC)

The QRC is to download as the portable network graphic (PNG), to copy onto a label or type plate and to print out. You can indefinitely reproduce the QRC and apply it multiple times to the installation.

Scanning the QRC brings the user to the main view of the device. It also is possible to deny the access on private devices.

Circuit Diagram View

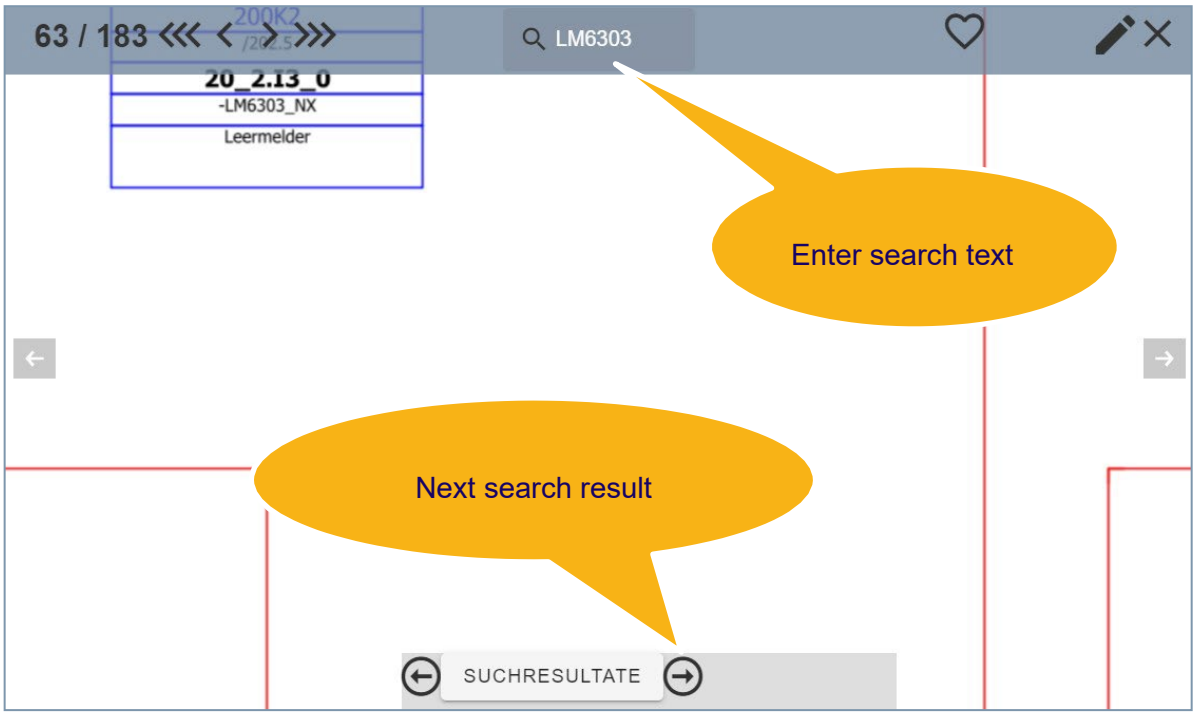


Favourites

The current page with the “heart” icon is set as “Favourite”. As shown in the screenshot above, you can switch directly to pages 48, 63 and 118. You can deselect pages marked as favourites by clicking on the filled-in heart a second time.

Search in Circuit Diagram

The search function makes it possible to find a text or designation in a document. To do this, enter the text in the search field and click “Enter”.

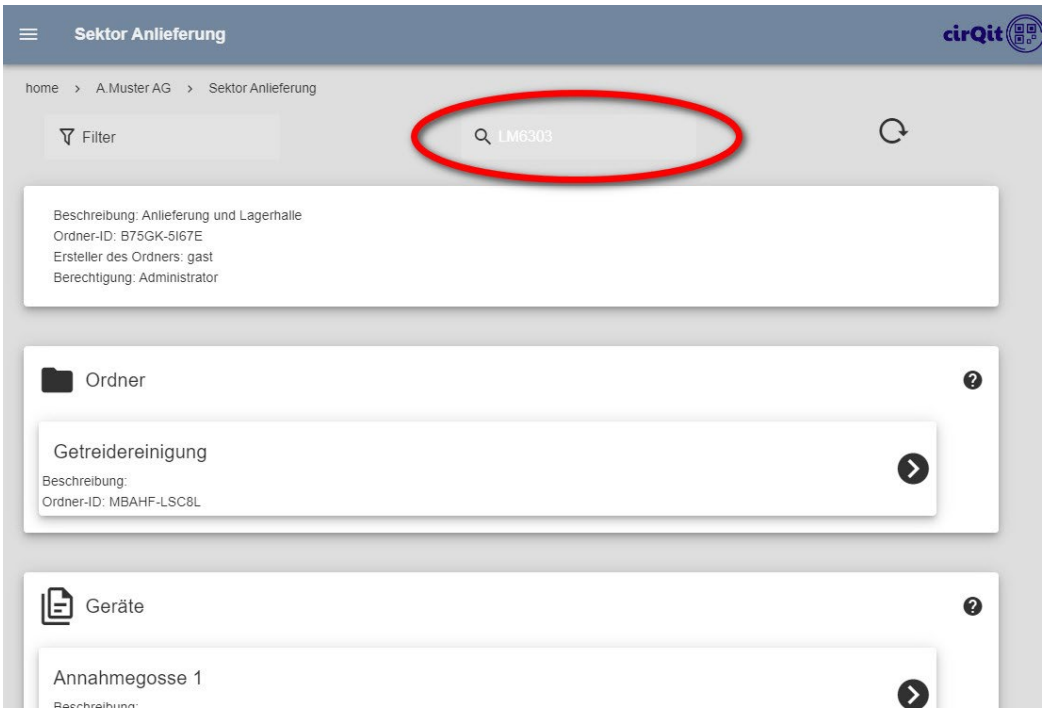


Search results are displayed in a box. To go to the page, simply click on the corresponding entry.

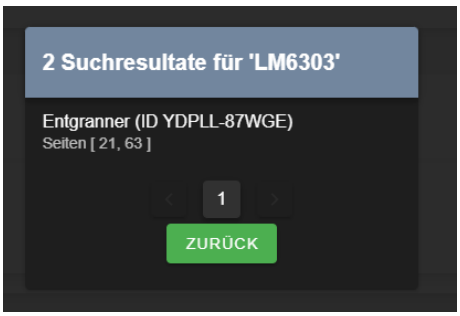
Clicking the “Search results” button opens the box again.

Search in Folder

In the folder overview, you can also search in several digital circuit diagram pockets at the same time. After entering the search text and clicking “Enter”, you search in the devices contained in this folder and in all its child folders.

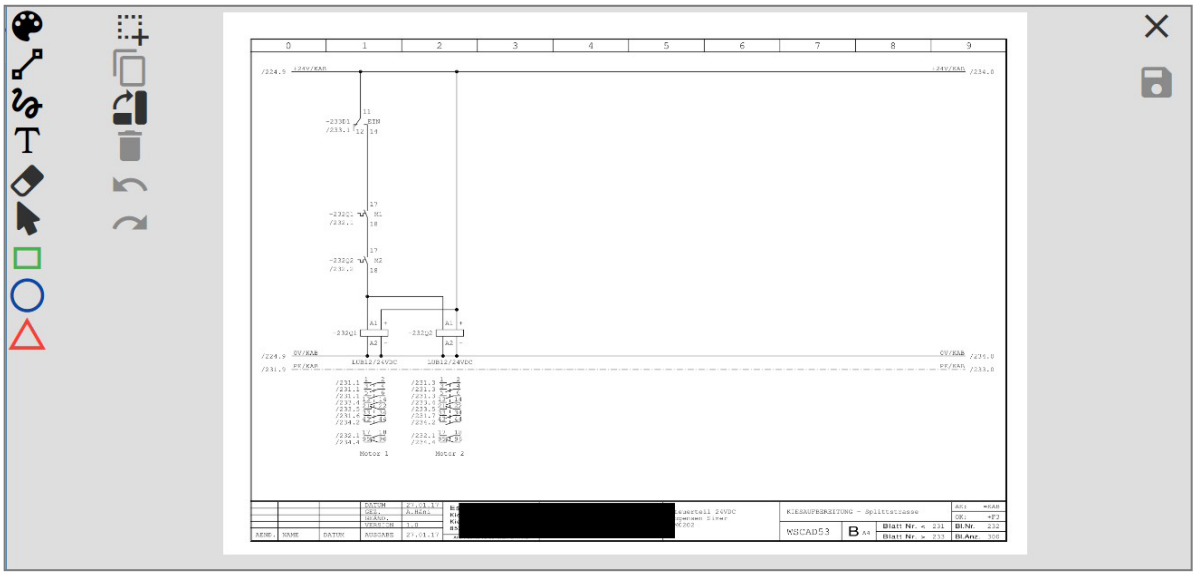


You will see the devices with the corresponding text in the circuit diagram displayed in a box. By clicking the entry, you jump directly to the circuit diagram of the device. The box with the pages on which the search text was found will open there.



Search only is possible in documents exported from CAD.
PDFs based on images are not (yet) searchable.

Circuit Diagram Editor



Icon	Denomination	Description
	Paint Palette	Select colour for a stroke or text
	Straight line	Draw a straight line
	Freehand drawing	Draw a line with mouse or finger
	Text	Write a text and place it by clicking at the corresponding position
	Eraser	Erase parts of the circuit diagram. The eraser is a wide, white line for the freehand drawing
	Cursor	Select the item that was added. You can move or delete the item
	Icon	Mark connections. You can also select and enlarge the icon with cursor, as well as use it as a square, circle or triangle.
	Copy	Select an area in the circuit diagram to copy
	Paste	Paste the copied object. You can insert the object on the same page or in another document
	Tilt	Tilt the entire circuit diagram worksheet 90° to the right
	Delete	Delete the selected item
	Undo	Undo last change
	Redo	Redo the previously undone action
	Close	Exit the editor
	Save	Save changes

User Management

License Type

When creating a device, you can choose between two license modules, “Private” or “Public”.

Public Devices

Public devices are publicly accessible. Every logged in user has the administrator rights on public devices and can edit the data. Scanning the QRC tag results in displaying the device. By default, users that are not logged in only have the read rights.

To display the public device for an employee in the overview, you can enter the employee or his group in the parent folder with the role “Read only”. Since the strongest role is respectively decisive, it has no influence on the permission to the device.

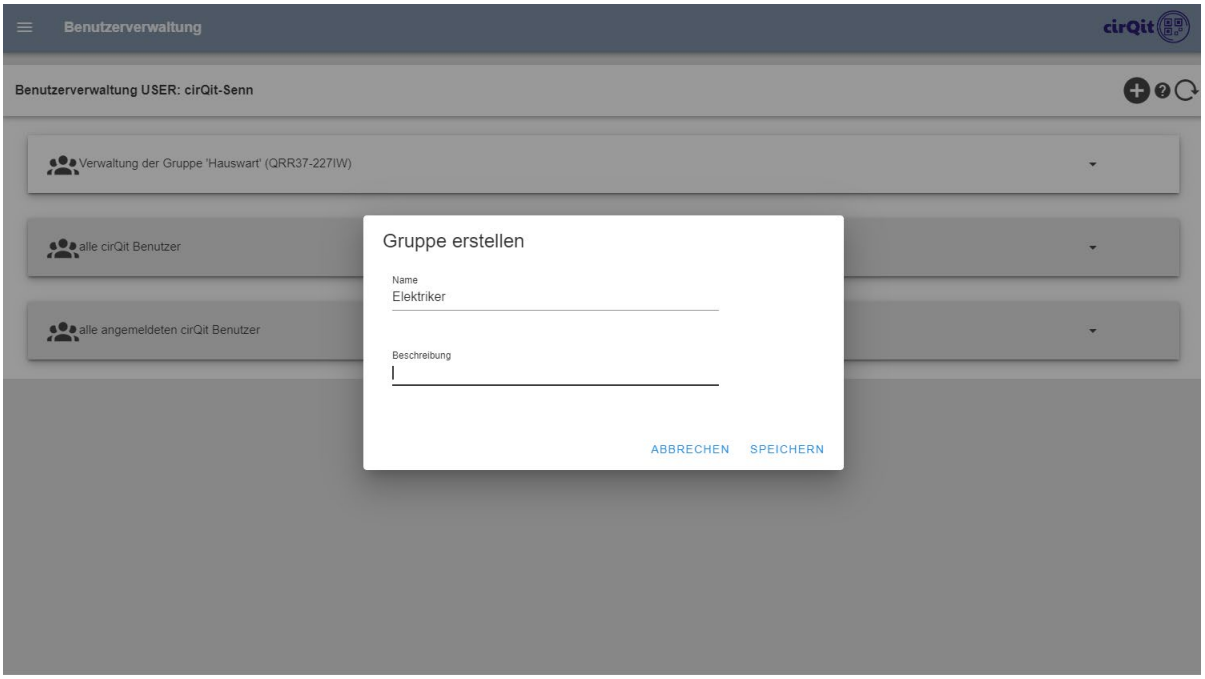
If the device is deleted, the application sends a notification to the creator of the device. In the event of accidental deletion of a device, the cirQit support can restore the circuit diagram pocket from the backup after specifying the device ID.

Private Devices

You can manage access permissions to private devices as a folder or device administrator.

In principle, unregistered users are not allowed to make any changes to cirQit devices. However, it is possible to assign the role “Read and edit” to the group “All cirQit users” in the parent folder. This configuration lets anyone make changes to the device, but not to delete it.
It is nevertheless possible to narrowly restrict further access rights for private devices.

Manage Groups



Any user can create groups. The application automatically assigns the creator of the group as its manager. You ideally should register at least two administrators per group to ensure redundancy. Only administrators can edit the group.

It is possible to add any number of administrators or members to a group. Administrators and members of the group have the same rights to the assigned folders and devices.

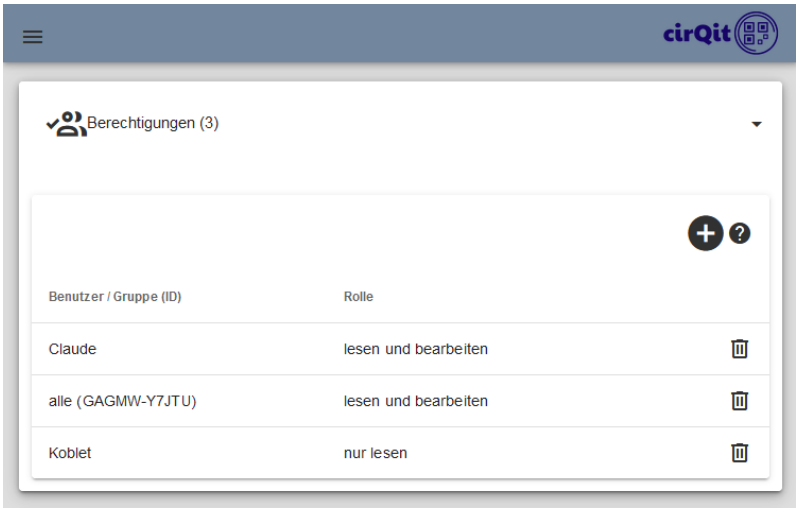
Predefined Groups

The system manages the following two groups:

“All cirQit users” – All cirQit users, regardless of whether they are registered and logged in or access the device data as a visitor via QRC or link, belong to this group.

“All registered cirQit users” – All users who have registered with their username and password belong to this group.

Grant Permissions to Groups or Users



Roles and Rights

Folder and device administrators can grant access to some additional users or groups. As creator of a folder or device, you are assigned as its administrator.

Whenever a user is configured several times, e.g., individually and in a group, the application applies the access right with the highest priority.

Users inherit their access rights. A user assigned as an administrator to a folder is also the administrator of all its child folders.

By default, after creating public and private devices, the “All cirQit users” group is assigned the read rights. This ensures that anyone, at any time, can read, via QRC or link, the stored device data.

Rights to Public Devices

It is recalled that the logged in users always have the full administrator rights on public devices. It is not possible to restrict access to public devices! Any cirQit user can only access a public device via QRC or link. This user cannot see the child folder tree.

Example of access to public devices:
A service technician on site, unregistered, not logged in, scans the QRC => the technician only has the read rights on this public device and only sees this device.

A service technician on site, registered cirQit user and logged in, scans the QRC => the technician has the full administrator rights to this public device, but only sees this device.

Notification of Changes to a Device

If a user or group is assigned the role “Notification of changes to a device”, they become notifications about changes via e-mail. As with access permissions, you can configure this role at the folder or device level.

After changing the circuit diagram of a device, the application sends an e-mail to the defined persons the following night.

Overview of Roles and Permissions

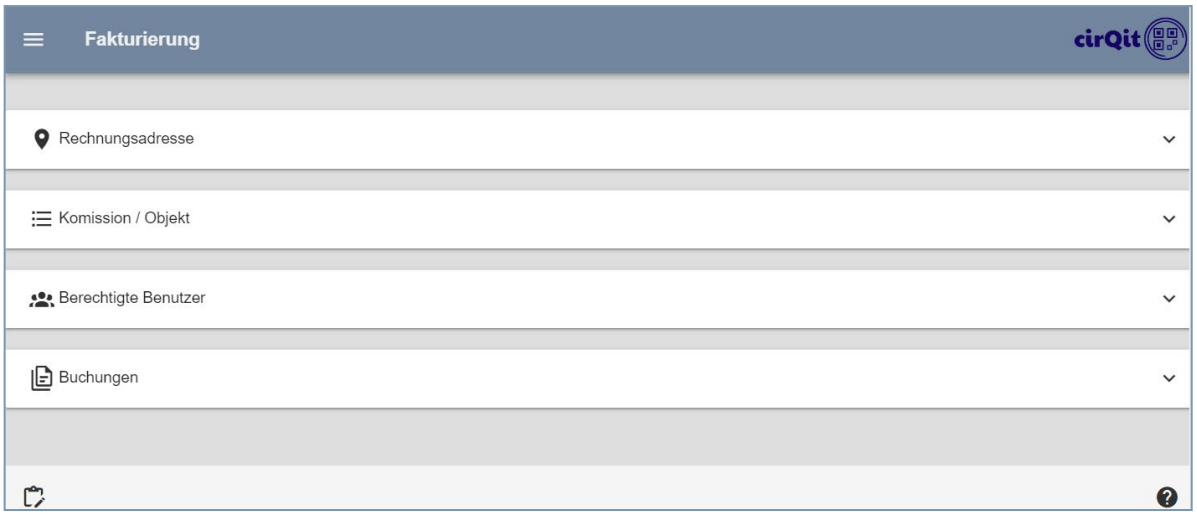
Role	Create	Read	Change	Delete	E-mail
Only read	×	✓	×	×	×
Read and edit	✓	✓	✓	×	×
Administrator	✓	✓	✓	✓	×
Notification	×	×	×	×	✓

View Public Devices in the Folder Tree

The system only displays a public device in the folder tree of its creator. To make the device visible to other users in the folder tree, the creator of the device must grant permission to a second user or to the group in the parent folder.

Invoicing

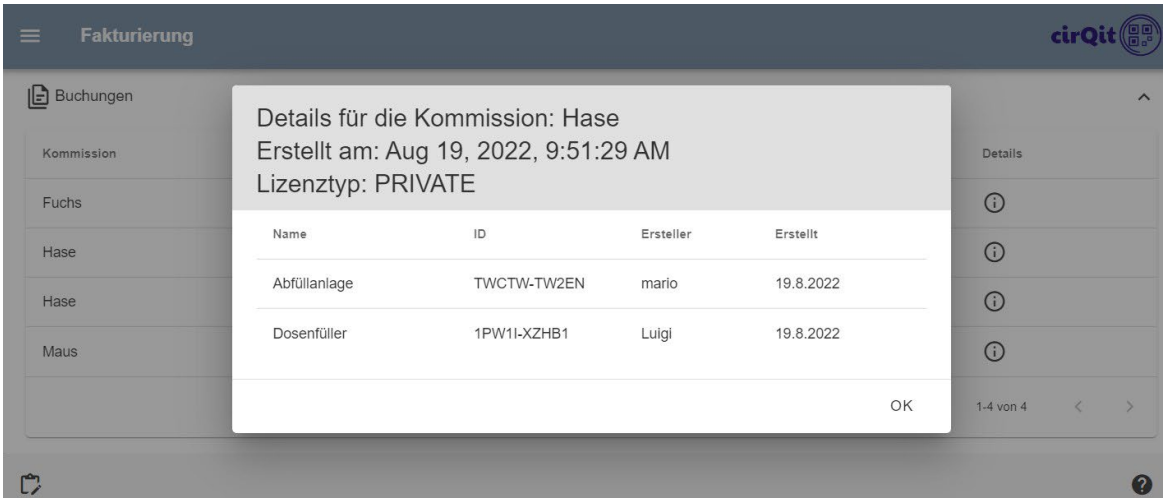
The “Invoicing” menu provides an overview of all registered and invoiced devices of a company.



Invoice Address, Commissions and Book Entries

The creation of the first device is only possible after providing a billing address. You can assign multiple commissions to one billing address. It is not necessary to enter a billing address to create a freemium device.

The application assigns a new device to a commission. Devices are listed in the “Book entries” section or on the statement of accounts sorted by commissions.

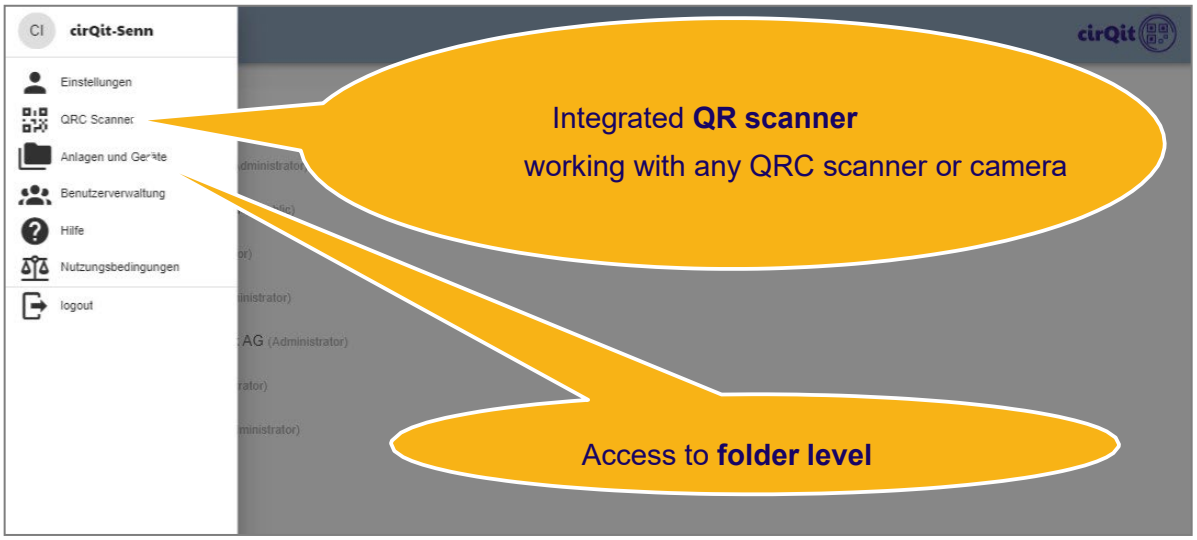


Authorized Users

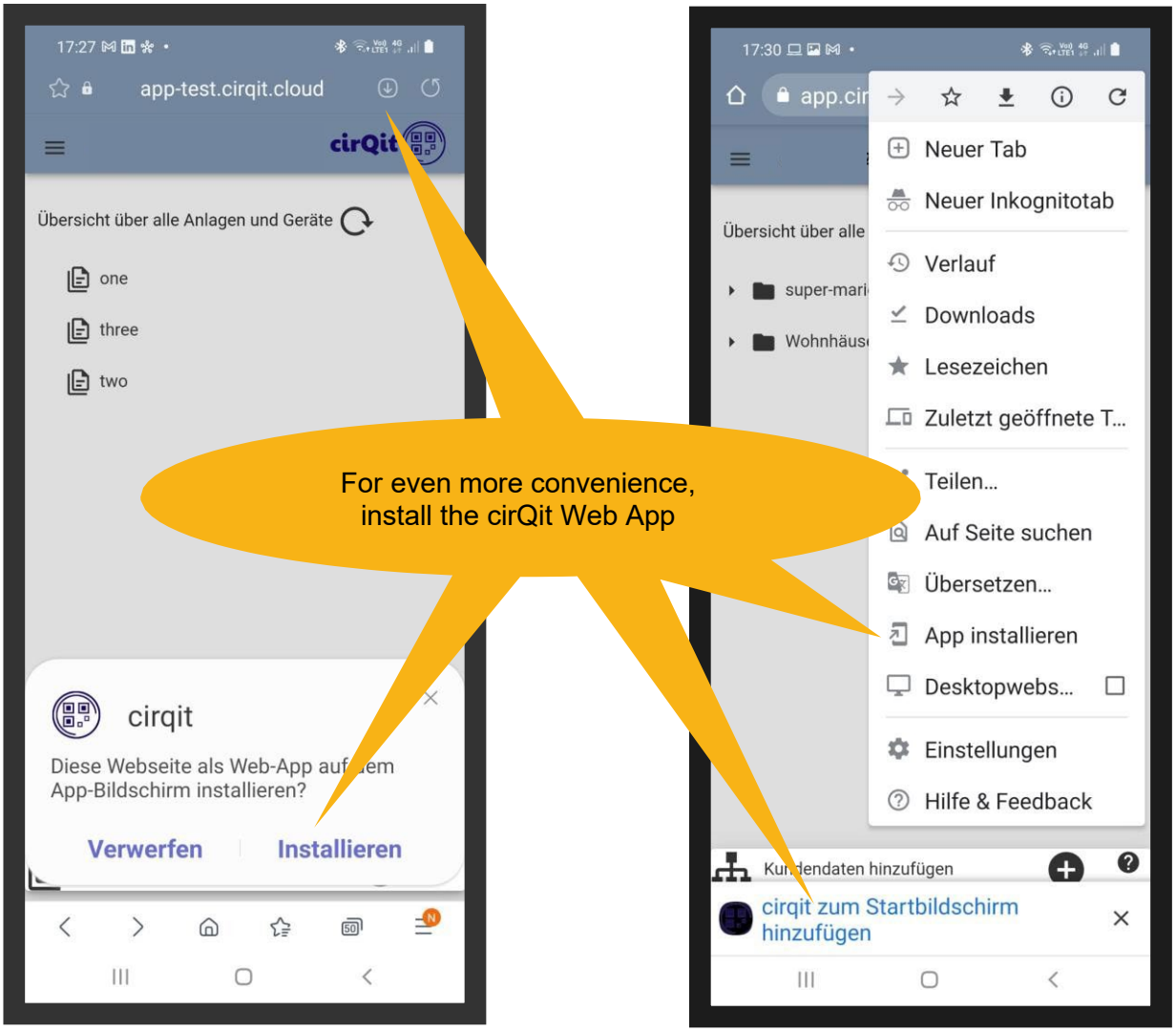
The creator of a billing address is assigned as its manager. You can add additional users assigned as administrators or members. Each administrator can manage the billing address and register additional commissions and users. You can only register one user to one billing address.

When creating a new device, the system assigns the device to the billing address and the selected commission. If a user has not yet stored a billing address (as an administrator or a member), he will be directed to this page when creating his first device.

Menu


CI
cirQit-Senn
Einstellungen
QRC Scanner
Anlagen und Geräte
Benutzerverwaltung
Hilfe
Nutzungsbedingungen
logout
cirQit
Integrated **QR scanner**
working with any QRC scanner or camera
Access to **folder level**

Register as an App on a Mobile Device



cirQit is a web-based application that runs in the browser. It has been developed as a progressive web application (PWA), which is a website that acts like a native mobile application. You do not need to install it from the “Apple Store” or “Google Play”.

For direct access to the application, you can save cirQit to your splash screen.

Use cirQit Without Network

cirQit supports reading and editing circuit diagrams without network. Previously opened circuit diagrams are saved in the browser cache. These circuit diagrams are now also available offline. The application locally saves changes made during offline operation and uploads them to the cirQit Cloud when the availability of the network is restored.

In the tree view, the available devices are black, the orange ones are those not stored in the browser cache.

In cirQit, attachments are not available offline, otherwise all attachments would have to be loaded via the network each time you visit an installation. Thus, load the necessary attachments onto the mobile phone before leaving the network coverage.

Examples

Groups and Permissions

“Administrator” Group with Fritz and Karl

The group is configured as the administrator of the “Immobau” and “Mineralquelle AG” folders. Group’s permissions to their child folders are inherited. Hence, Fritz and Karl can grant permissions to all subfolders and devices of “Immobau” and “Mineralquelle AG” and have full administrator access to all data.

“Electrician” Group with John and Bill

With their “Read and edit” role on the “Filling Hall”, John and Bill can read and edit devices in this folder and in all its child folders. They can therefore create additional folders and devices and change the existing ones. John and Bill cannot delete any devices.

“Maintenance” Group with Cedric and Jean

Cedric and Jean are allowed to read data in the “Labeler” folder, nevertheless, they are not allowed to change them.

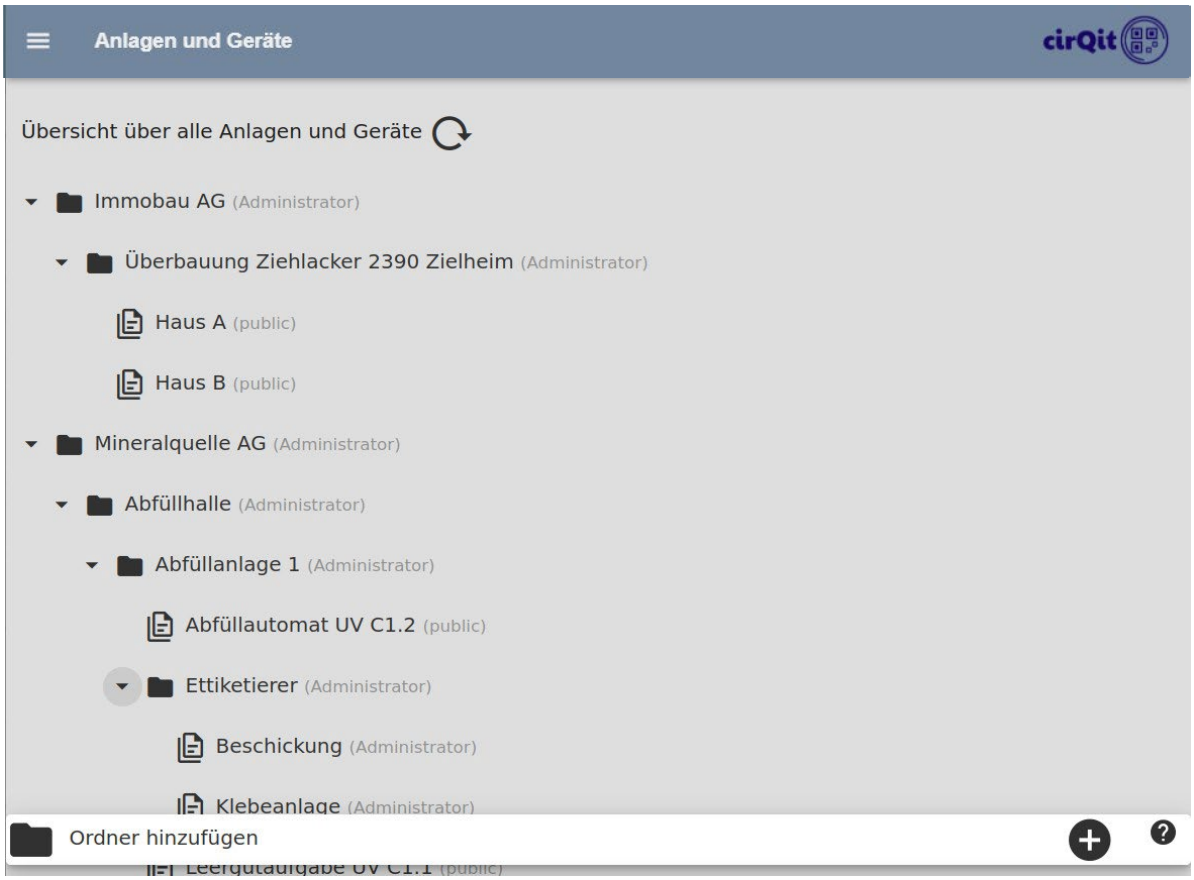
Permissions for Individual Users

User Fritz

All above-described permissions can also be granted for individual, registered users.

Access to Devices

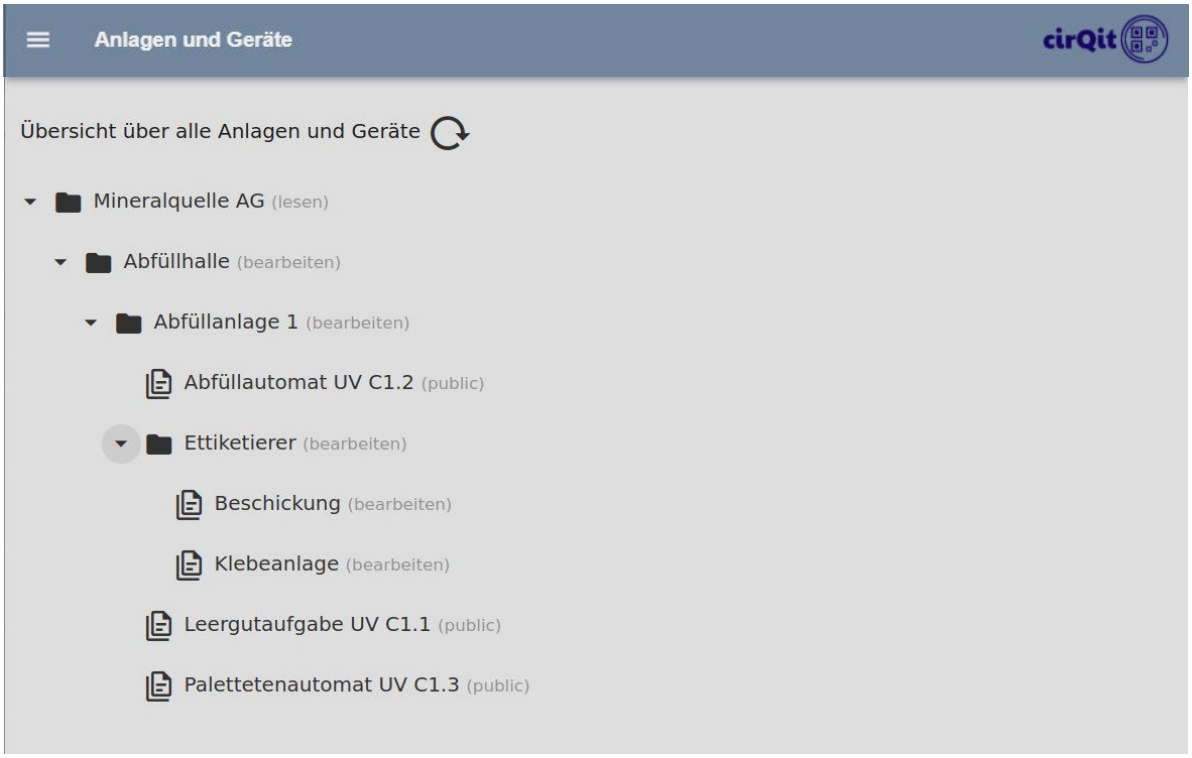
View of the Administrator Fritz



As the administrator of the “Immobau” and “Mineralquelle AG” folders, Fritz has full access to all child folders and devices.

His rights to the child folders are inherited and cannot be restricted.

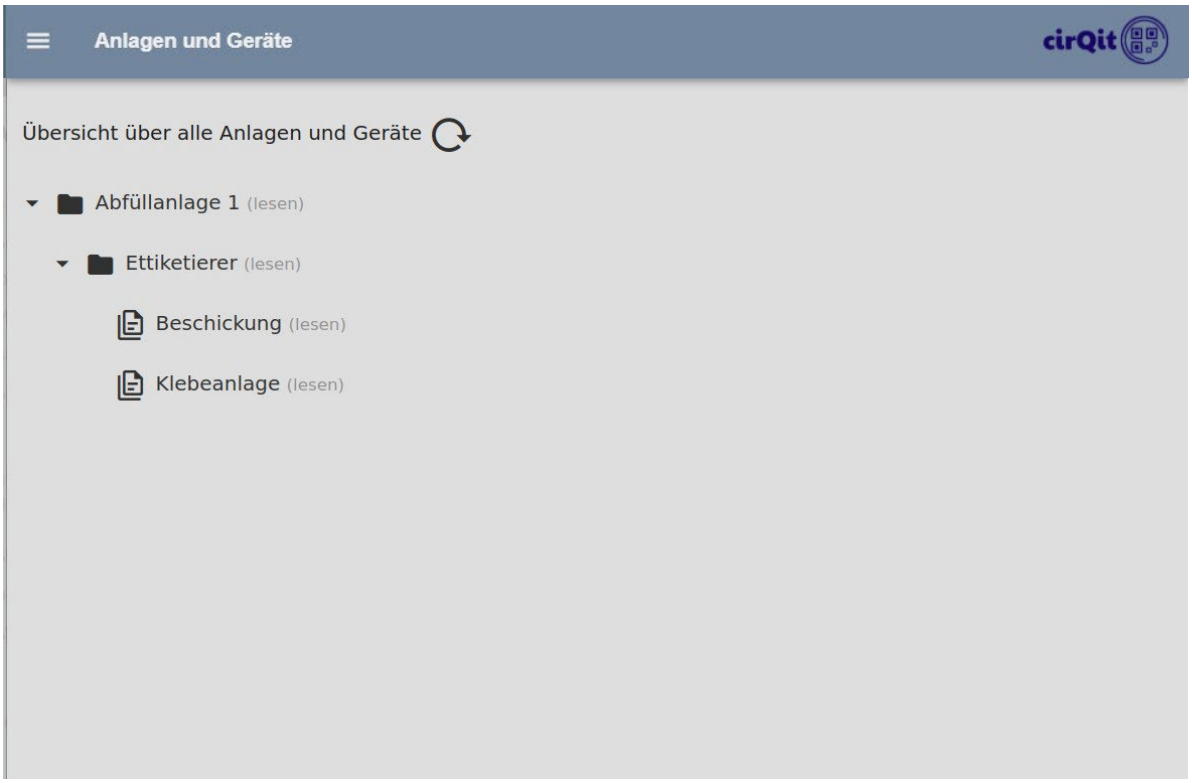
View of the Electrician John



The industrial electrician can edit private devices stored in the “Filling Hall” folder. He is allowed to edit circuit diagrams, create logbook entries, and upload additional documents. He cannot delete any devices and does not see any hidden logbook entries and documents.

John has the administrator rights on public devices.

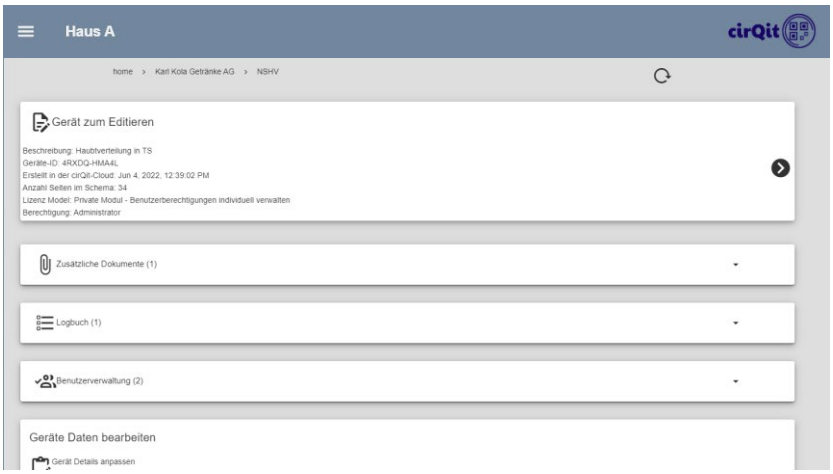
View of the Maintenance Man Cedric



The maintenance man only has read access to devices stored in the “Labeler” folder. He cannot see any hidden logbook entries and documents.

Cedric has the administrator rights on public devices.

View of All Users



All users have read access to public and private devices via the QRC tag or link.

To make a public device visible in the overview, the maintenance man would have to be registered with at least the “read” role in the parent folder.

Feedback or Questions

If you have any questions or feedback concerning the cirQit Web App, do not hesitate to contact us. You may send us an e-mail to info@cirqit.cloud.