



SQLxCONNECT 1.0.0

User Manual

Compatible with SIINEOS version 2.9.5 and above
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Table of Contents

- Legal information 3**
- 1. General information 5**
 - 1.1. Scope of delivery 5
 - 1.2. Other applicable documents 5
 - 1.3. Network security 5
- 2. General product information 6**
- 3. Setting up a working environment for SQLxConnect 7**
 - 3.1. Checking the SIINEOS version 7
 - 3.2. Installing SIINEOS updates 8
 - 3.3. Requesting a voucher and activating a software licence 8
 - 3.4. Adding a licence file to SIINEOS 11
 - 3.5. Installing app updates 11
- 4. Administering SQLxConnect 13**
 - 4.1. Logging in 13
 - 4.2. Displaying the status of all connections and transfer rules 13
 - 4.3. Subscribing to apps and their datasets 14
 - 4.4. Creating connections to databases 15
 - 4.5. Creating collections 16
 - 4.6. Creating recording rules 16
- 5. FAQs 18**

Legal information

Safety information

This documentation contains information that you must observe for your personal safety and to prevent material damage. Read the safety information carefully and always keep this documentation within easy reach.

The safety information is presented in descending order of hazard level as follows:

**DANGER**

Indicates an immediate hazard to humans. Failure to comply will lead to irreversible injuries or death.

**WARNING**

Indicates an identifiable hazard to humans. Failure to comply may lead to irreversible injuries or death.

**CAUTION**

Indicates an identifiable hazard to humans or potential material damage. Failure to comply may lead to reversible injuries or material damage.

**ATTENTION**

This gives you information that may lead to material damage if not complied with.

**NOTE**

A note gives you useful information on specific actions and issues.

**TIP**

A tip gives you tips, tricks or recommendations from in.hub that have proven to be helpful in handling the products.

Qualified personnel

The product associated with this documentation may only be handled by personnel qualified for the respective task. The device may only be installed, commissioned and operated in compliance with the associated documentation and the safety information contained therein.

Based on their training and experience, qualified personnel are able to recognize risks and avoid potential hazards when handling these products.

Knowledge of PCs, operating systems and web applications is a prerequisite. General knowledge in the field of automation technology is recommended.

Intended use

in.hub products may only be used for the applications specified in the corresponding technical documentation.

If third-party products and components are used, they must be recommended or approved by in.hub.

Proper storage, set-up, assembly, installation, commissioning, operation and maintenance are essential for the correct and safe operation of the products.

The permissible ambient conditions must be complied with. Instructions in the associated documentation must be followed.

Brands

All designations marked with the “®” symbol are registered trademarks. The other designations in this document may be trademarks whose use by third parties for their own purposes may infringe the rights of the owner.

Disclaimer

in.hub accepts no liability for product malfunctions resulting from improper handling, mechanical damage, incorrect application and improper use.

The contents of this document have been checked for conformity with the product described. However, deviations cannot be ruled out, so that we cannot guarantee complete conformity. The information in this publication is regularly reviewed. Necessary corrections are included in subsequent editions.

1. General information

This document contains all the information you need to commission and use the device/software.

The document is intended for service technicians, system administrators and installers who connect the product with other units, configure it and commission it.

1.1. Scope of delivery

1 x SQLxConnect licence for uploading the app to SIINEOS

1 x User Manual as a PDF

1.2. Other applicable documents

In addition to this document, please observe the following documents. You can find these in the in.hub download portal at <https://download.inhub.de>:

- User Manual for the IoT (Internet of Things) operating system SIINEOS

1.3. Network security

Please bear in mind that the product does not communicate in encrypted form within the internal network. Therefore, protect your network from unauthorized access from outside! Any integration into a network with Internet access must be undertaken with great caution. It is imperative to speak with your system administrator in advance.

2. General product information

SQLxConnect is a user application (app) in SIINEOS that allows you to send I/O unit signals, alert signals and app datasets (e.g. from in.hub Forms) to the SQL database. In the app, you can set up and manage the necessary connections and define rules specifying when datasets are sent to which database.

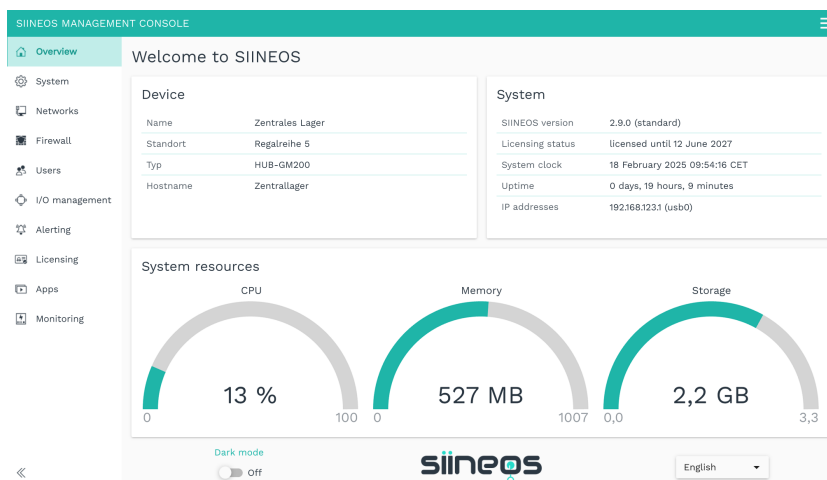
3. Setting up a working environment for SQLxConnect

Before you can use SQLxConnect, you must have completed the following steps:

- ✓ You have assembled and installed all the necessary devices, such as gateways, sensors, etc. For this, see the operating instructions of the respective device.
- ✓ You have installed at least the SIINEOS version valid for this SQLxConnect version.
[Checking the SIINEOS version \[7\]](#) and [Installing SIINEOS updates \[8\]](#)
- ✓ You have uploaded the licence to SIINEOS.
[Adding a licence file to SIINEOS \[11\]](#)
- ✓ The system administrator has received the software bundle for SQLxConnect from in.hub and installed it in SIINEOS.
[Installing app updates \[11\]](#)
- ✓ The system administrator has also activated the app: **SIINEOS > Apps > SQLxConnect > Enable app.**

3.1. Checking the SIINEOS version

1. Go to the SIINEOS start page by selecting the **Overview** page on the left.



“Overview” start page (example)

2. Check the **SIINEOS version** field to see which version is installed on your gateway.
3. Go to the download portal at <https://download.inhub.de/siineos/> and check whether a new version of SIINEOS is available.

3.2. Installing SIINEOS updates

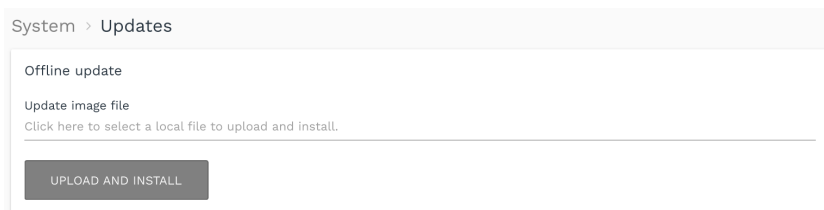


NOTE

You can only upload updates on the **System** page if you have a valid SIINEOS licence.

If the licence has expired, you will be informed that you cannot import any updates.

- Go to the download portal at <https://download.inhub.de/siineos/> and select the required SIINEOS package.
Two variants are available:
 - The complete software package for the gateways and modules, such as the HUB-GM200, the HUB-GM400 or the HUB-EN200
 - SIINEOS Light without Docker containers with a smaller file size for the HUB-IO100
- When the download is complete, go to the **System** page in SIINEOS and select **Updates**.



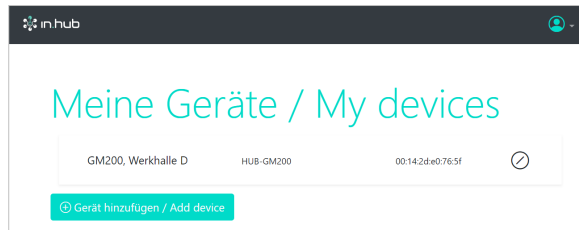
System > Updates

- Click in the **Update image file** input field and select the software package provided by in.hub in *.raucb format from your local file-storage location.
- Click on **Upload and install**.
The installation will proceed automatically and takes about 1 minute. After a successful installation, you will be asked whether you want to restart the gateway.
- Click on **Yes**.
- After restarting, check that the new version of SIINEOS is displayed on the **Overview** page.
- If the version has not been updated, proceed as follows:
 - First delete your browser cache and refresh the page in your browser.
 - if that doesn't work: Switch off the power to the gateway and switch it on again after a few seconds.
 - Start SIINEOS and check the version number.

3.3. Requesting a voucher and activating a software licence

- Please contact service@inhub.de and let us know which licence you require. SQLxConnect licences can be purchased for 1 year.
You can activate the software licence with the voucher you receive from us.

- Navigate to the website <https://apps.inhub.de/> and register or log on if you are already registered.



My devices (example)

- If you want to extend a software licence, click on the device on which the software licence is to be renewed under **My devices**;
– or –
if you want to activate the software licence for a new device, click on **Add device**.

Add device

- Enter the **Name** of the device, select the **Device Type** and enter the MAC address of the device.
The MAC address can be found via **SIINEOS > Networks > Ethernet 1**.
NOTE: Only the MAC address of Ethernet 1 is recognized and accepted.
- Click on **Add**.
The **License activation** page opens:

Lizenfreischaltung / License activation

Bitte geben Sie einen Lizenzvoucher ein, um ihn einzulösen und die erworbene Softwarelizenz für dieses Gerät zu aktivieren. Wenn Sie keinen Voucher haben, wenden Sie sich bitte an den Händler, bei dem Sie das Gerät erworben haben.

Please enter a license voucher to redeem it and activate the purchased software license for this device. If you do not have a voucher, please contact the dealer from whom you purchased the device.

Gerät / Device
GM200, Werkhalle D

Voucher

Abbrechen / Cancel Weiter / Continue

License activation

6. Copy the name of the voucher you received from in.hub into the **Voucher** field.
7. Click on **Next**.
The information stored in the voucher, such as the term, product and validity, etc., will be displayed.

Lizenfreischaltung / License activation

Voucherinformationen / Voucher information

Gerätename / Device type	GM200, Werkhalle D
Produkt / Product	SIINEOS
Lizenztyp / License type	3 Jahre
Gültig bis / Valid until	16.04.2027

Abbrechen / Cancel Zurück / Back Lizenz generieren / Generate license

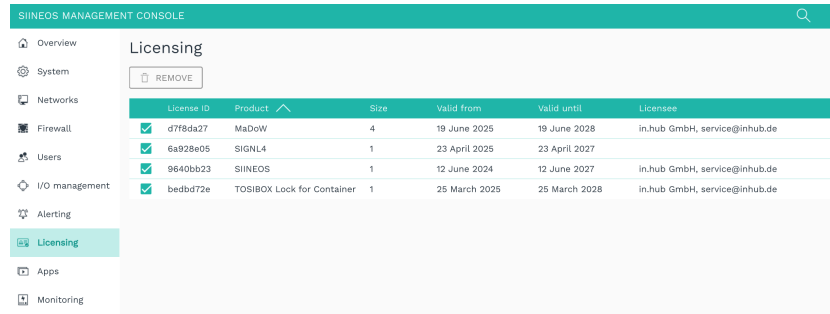
Voucher information (example: Activation of a SIINEOS licence valid for 3 years)

8. Check the details, especially whether the requested licence term matches the term specified here.
9. If the details are correct, click on **Generate license**.
The licence file is downloaded automatically.

3.4. Adding a licence file to SIINEOS

1. In SIINEOS, navigate to **Licensing**.

In the list, you will find all software licences that you have purchased and uploaded. The check mark in the first column indicates that the licence is valid.



License ID	Product	Size	Valid from	Valid until	Licensee
<input checked="" type="checkbox"/> d7f8da27	MaDoW	4	19 June 2025	19 June 2026	in.hub GmbH, service@inhub.de
<input checked="" type="checkbox"/> 6a928e05	SIGNL4	1	23 April 2025	23 April 2027	in.hub GmbH, service@inhub.de
<input checked="" type="checkbox"/> 9640bb23	SIINEOS	1	12 June 2024	12 June 2027	in.hub GmbH, service@inhub.de
<input checked="" type="checkbox"/> bedbd72e	TOSIBOX Lock for Container	1	25 March 2025	25 March 2028	in.hub GmbH, service@inhub.de

“Licensing” page (example)

2. Click on **Add license**.
3. Select the licence file from your file directory and click on **OK**.
The licence is added to the list. From that point on, you can implement updates again or return to using a blocked app.
4. To remove a licence again – because it has become invalid, for example – select the licence ID and click on **Remove**.
This will not delete the licence file itself, but only remove it from the list.

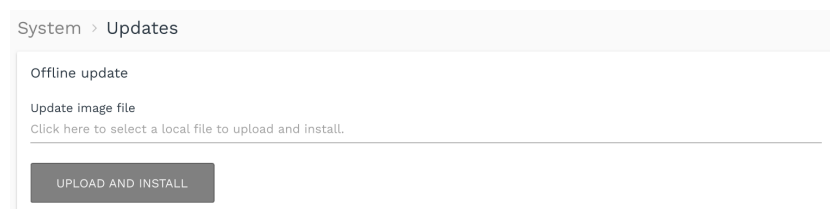


NOTE

Make sure that the system time of your device is correctly set and/or synchronized. Otherwise, the licence-file upload may fail.

3.5. Installing app updates

1. On the **System** page, click on **Updates**.



System > Updates

2. Click in the **Update image file** input field and select the software package provided by in.hub in *.raucb format from your local file-storage location.
3. Click on **Upload and install**.
Installation will proceed automatically.
After a successful installation, you will be asked whether you want to restart the gateway.

4. Click on **No**.

You do not need to restart the gateway when uploading apps.

4. Administering SQLxConnect



NOTE

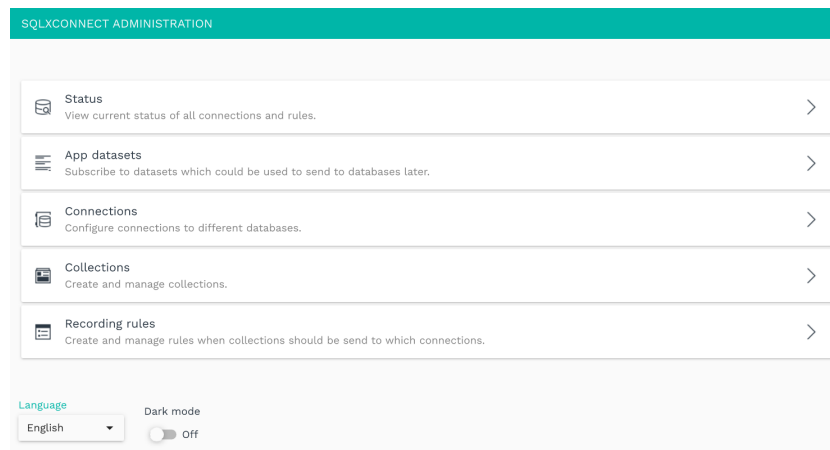
The tasks described in this chapter are only accessible for the **App administrator** user role.

4.1. Logging in

1. Navigate to **SIINEOS > Apps > SQLxConnect**.
2. Open SQLxConnect by clicking on **Open app**.
3. Log on with the initial user data **sxcadmin/sxcadmin**.

NOTE: Please update these credentials in the user administration area of SIINEOS after logging on for the first time.

4. Select what you want to administer.



SQLxConnect administration

4.2. Displaying the status of all connections and transfer rules

1. Under **Administration**, select the **Status** task.
If any SQL connections and transfer rules have already been created they will be displayed.

SQLXCONNECT ADMINISTRATION						
Administration > Status						
Connections						
Enabled	Connected	Type	Server	Port	User	Name
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PostgreSQL	docker	5432	inhub	inhub
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	MySQL	docker	3306	inhub	inhub
<input checked="" type="checkbox"/>	<input type="checkbox"/>	MSSQL	mssql.lan.inhub.de	1433	Company xy	

Recording Rules							
Enabled	Name	Table name	Collections	Store type	Trigger	Connections	Last transferred
<input checked="" type="checkbox"/>	SQL	sql	1 collection	One per collection	Column	Periodically	1 connection unknown

Status overview of all created SQL connections and transfer rules

You cannot enter anything here. This page is for information only. If you wish to change any connections or transfer rules, go back to the **Administration** area and select the relevant task there.

4.3. Subscribing to apps and their datasets

SQLXCONNECT ADMINISTRATION	
Administration > App datasets	
<input checked="" type="checkbox"/> Apps <input checked="" type="checkbox"/> in.hub Forms	<input checked="" type="checkbox"/> Datasets <input checked="" type="checkbox"/> Eingabemaske "Mitarbeiter" <input checked="" type="checkbox"/> Laufzettel Produktion
Search apps	Search datasets
<input type="button" value="X CLOSE"/>	<input type="button" value="SAVE"/> <input type="button" value="SAVE & CLOSE"/>

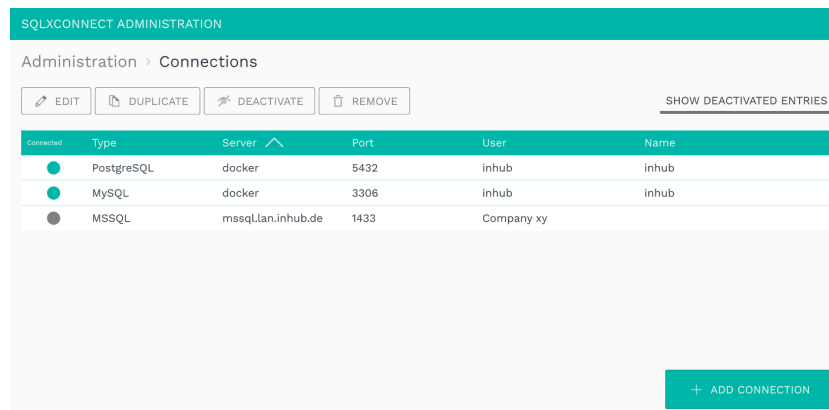
List of apps and their datasets (example)

- Under **Administration**, select the **App datasets** task.
All apps that provide data are displayed in the **Apps** list.
NOTE: If the app whose datasets you want to subscribe to does not appear here automatically, you will need to configure this explicitly in the app concerned. For example, you must select the option for forwarding data to SQLxConnect in the data submission management area of SQLxConnect.
- Select the desired app and then choose the associated datasets to subscribe to for forwarding to the SQL database.
These datasets will not be forwarded automatically yet, but will be available to you when creating datasets or setting up transfer rules.
- Finally, click on **Save & close**.

4.4. Creating connections to databases

In this step, you can select the SQL database where the data will be sent. The following server types are supported:

- PostgreSQL: Version 7.3 and above
- MySQL (or MariaDB): Version 5.6 and above
- MSSQL: Via FreeTDS (Microsoft SQL Server 2000 and later)



The screenshot shows the 'SQLXCONNECT ADMINISTRATION' interface. The breadcrumb is 'Administration > Connections'. There are buttons for 'EDIT', 'DUPLICATE', 'DEACTIVATE', and 'REMOVE', along with a 'SHOW DEACTIVATED ENTRIES' link. Below is a table with columns: Connected, Type, Server, Port, User, and Name. The table contains three entries: PostgreSQL (connected), MySQL (connected), and MSSQL (not connected).

Connected	Type	Server	Port	User	Name
●	PostgreSQL	docker	5432	inhub	inhub
●	MySQL	docker	3306	inhub	inhub
●	MSSQL	mssql.lan.inhub.de	1433	Company xy	

At the bottom right of the table area, there is a '+ ADD CONNECTION' button.

List of SQL connections (initially, this list is empty)

1. Click on **Add connection**.
The setup wizard opens to guide you through the rule creation process. In the following, confirm each entry with **Next** or press **Enter**.
2. Select the relevant **Server type**.
3. Under **Server**, enter the path or URL for SQL Server.
4. Enter the **Port** for establishing the connection to SQL Server.
5. Under **User**, enter the name of the database user who must also authenticate themselves on SQL Server.
This role is part of SQL Server user management. If you make any changes there, be sure to check whether any changes are required here as well.
6. Enter a **Password** for the database user, which must be entered when connecting to SQL Server.
7. Optional: Enter the **Name** of the server or database.
8. Optional: If you have selected **MSSQL** as the server type, you can also enter the **TDS version** of the Tabular Data Stream network protocol to be used and, in the next step, choose whether to use Multiple Active Result Sets (**MARS**).
9. Once you have made all the entries, click on **Finish**.
You will be taken back to the list of all connections.

4.5. Creating collections

Name ^	Table name	Type	Sources
SQL-Quellenliste	sql_quellenliste	I/O signals	7 elements
zweiter Datensatz	zweiter_datensatz	I/O signals	13 elements

List of collections (initially, this list is empty)

1. Click on **Add collection**.
The setup wizard opens to guide you through the rule creation process. In the following, confirm each entry with **Next** or press **Enter**.
2. Enter a **Name** for the collection.
3. Enter a unique **Table name** for the collection.
4. Enter the **Source type** for the collection.
You can select **I/O signals**, **Alert signals** or an **App dataset**.
5. Under **Source**, select the signals you want to add to the collection.
Only signals matching the previously selected source type are selected.
6. Once you have made all the entries, click on **Finish**.
You will be taken back to the list of all collections.

4.6. Creating recording rules

Name ^	Table name	Collections	Store type: collection	Store type: data	Trigger	Connections
FormsSubmission	forms_submission	1 collection	All in one	Column	On any change	1 connection
SQL	sql	1 collection	One per collection	Column	Periodically	1 connection

List of transfer rules (initially, this list is empty)

1. Click on **Add rule**.
The setup wizard opens to guide you through the rule creation process. In the following, confirm each entry with **Next** or press **Enter**.
2. Enter a **Name** for the transfer rule.

3. Assign a unique **Table name** that will be added to all tables covered by this transfer rule.
4. Select at least one of the **Collections** from the list to apply the transfer rule.
5. Under **Store type of collections**, select how the datasets should be transferred to a table. Either a single table is created for all selected datasets or each dataset generates its own table.
6. Under **Store type of data**, you can specify how the individual data items of a dataset should be transferred to the table. Each value is written either as a column or as a row.
7. Under **Trigger**, you can specify when to trigger the transfer of datasets to the SQL database.
The collection can be transferred: **Periodically, whenever a change is made** or only **if the entire dataset is changed**.
8. If you select **Periodically**, you can enter the **Transfer interval** in the next step or leave the default value as it is.
9. Now select the **Connections** you want to use for transferring data to the SQL database. Here you will find all the connections you have created and configured previously.
10. The **Overview** area provides a summary of which tables have been created and are being used for data storage.
11. Once you have made all the entries, click on **Finish**.
This will take you back to the list with all the rules.

5. FAQs

If you have any questions about the SQLxConnect product, please visit the community at <https://community.inhub.de/> or contact our support team at service@inhub.de.

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The original language of this document is German.

Made in Germany.

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