SENSE+

User manual

Contents

1. Introduction

SENSE+ is a stand-alone system comprising of electronic cabinet locks and a software for managing the system. The term stand-alone means that the locks are not continuously connected to any overlying system.

Therefore, all programming needs to be done directly to the lock, either by using the connecting cable or by using the programming cards.

1.1. System Components

1.1.1. SENSE+ LOCK

The SENSE+ lock is a door mounted electrical cabinet lock. It is operated by 3 AAA-batteries. The locks utilize ASSA ABLOY standard catches in order to be able to fit onto most cabinets.

For the user, the lock will work in the same manner as standard SENSE locks.

1.1.2. SENSE+ SOFTWARE

The software is installed locally on any computer. This means that the software can be installed on one or many computers within the same facility if needed. The software is also "stand alone", meaning that each installation will not be communicating with any other installation.

1.1.3. SENSE+ CONNECTING CABLE

The connecting cable is used to program the lock from the PC. The lock can also be programmed with the help of programming cards which might be useful in certain cases.

In order to use the connecting cable, a driver needs to be installed. See Installation section.

1.2. UID-numbers

The primary information that is used to set up and operate a SENSE+ system is the card UID-number (Unique Identifier). The UID-number is hard coded onto the card during the manufacturing process and cannot be changed. 2 cards will never have the same UID-number.

The way that the lock works is that UID-numbers are registered in the lock memory, either as a master card, staff card or user card. No registration is done on the cards.

This means that a card can be registered on an unlimited number of locks which is typical for a master card. A card can also be registered as different card-types on different locks.

An example is that a nurse's card might be registered as a user card in the lock on the personal clothing cabinet, but as a staff card on patient bedside lockers.

It is also the card UID-number that is stored in the locking log in the lock which later can be read out to the software.

1.3.   Private and Public function

The locks can be set to work in 2 modes, public and private.

- PRIVATE MODE

In private mode, the locks are set up to be opened with the same card(s) over a longer time. The lock *automatically* locks.
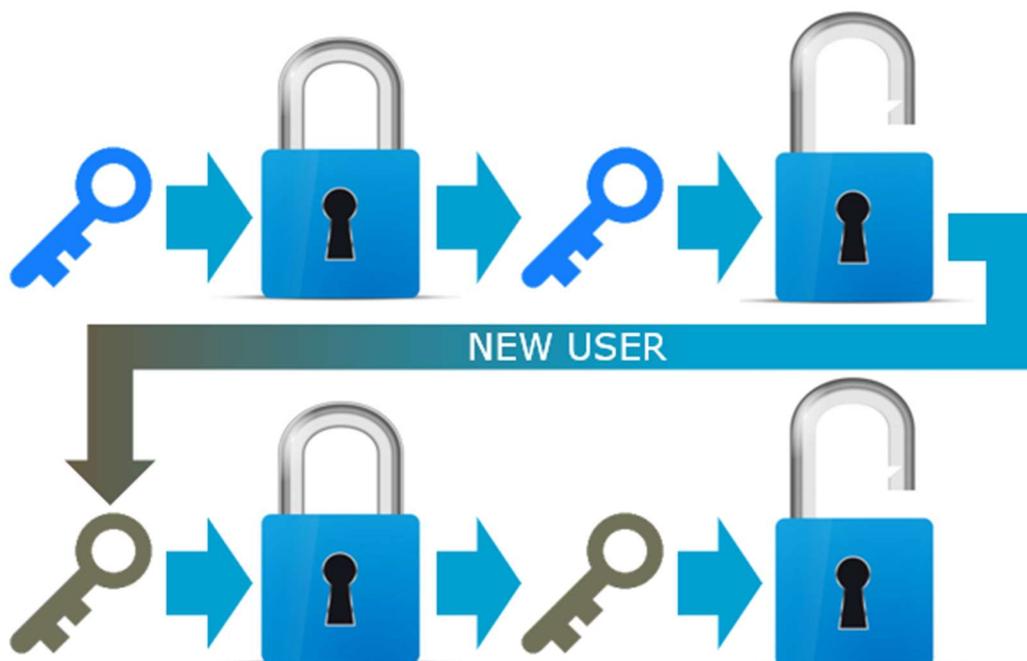
Typical installations include schools, offices etc.

- PUBLIC MODE

In public mode, the locks are locked by any compatible card and then the same card is used to open the lock. The lock is now free to use for the next user, with his/her own compatible card.

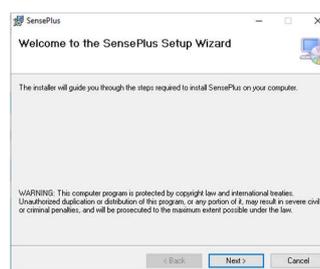Typical installations include gyms, swimming areas and other public spaces.

2. Installation

2.1.   Installation of the SENSE+ software

1. Save the 2 files on the USB to your computer (or launch directly from the USB). The location of the files is not important.
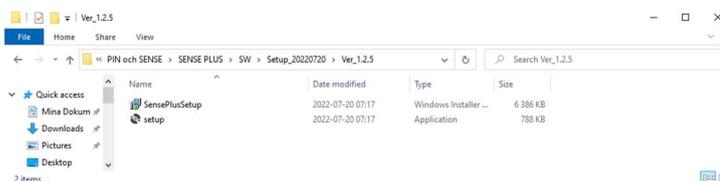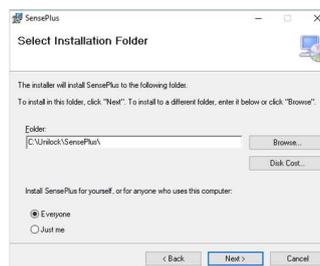

2. Click on any of the 2 files to launch the installer. Click Next to continue the installation.
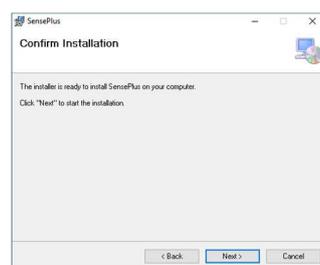

3. Either use the predefined file location or click Browse... to choose a different location. If the computer is setup with multiple users, it can be chosen if the software should only be for the current user or for all users.

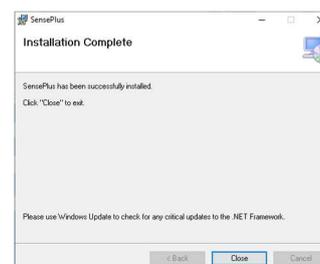   Click Next> to continue the installation.

4. Click Next> to Confirm Installation

5. After completed installation, click Close to exit the installer.
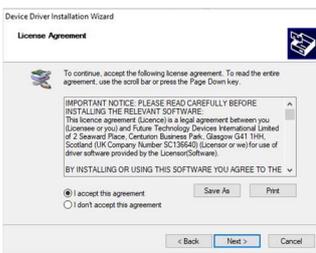
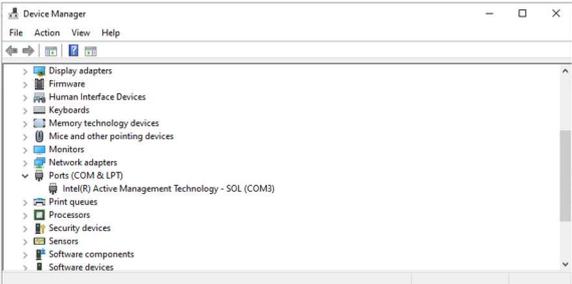   A desktop Icon will be created to easier give access to the software.

2.2.   Installation of Driver for Cable

To be able to connect the lock and the PC with the Cable, the driver needs to be installed.

Launch the driver installation file *CDM21228_Setup.exe* which is stored on the USB-stick

|			
1. Click Extract		2. Click Next	
3. Check the "I accept this agreement" button and click Next>		4. Click Finish to close the installation wizard.	

The cable should now be ready to use. In some cases, it might be needed to identify which COM-port that is used for the lock-cable. To do this, follow these simple steps.

1. Open Windows Device Manager and expand the Ports (COM & LPT)	
2. Connect the cable. The port used for the cable will pop up. In this example COM6. This COM-port is later to be chosen when connecting the lock to the SW.	

3. Opening Window

The opening window consists of the following

    A.   Login Button (section 3.1)
    B.   System Management Button (section 3.2)
    C.   Admin Management Button (section 3.3)
    D.   Quit Button (section 3.4)
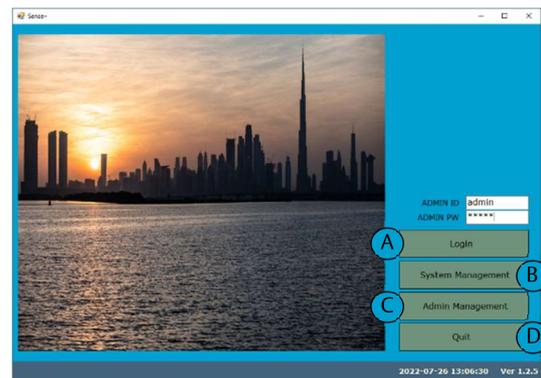
3.1.   Login Button

To Login, enter a valid ADMIN ID and a Valid ADMIN PW and press Login. The pre-set value for both fields are *admin*. After successfully logging on these values can be changed in the Admin Management Window (see later section).

After being logged on the system will show "Logged on" and the ADMIN NAME instead of the ADMIN PW.
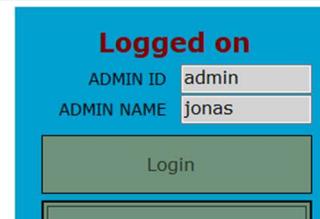
3.2.   System Management Button

After login have been successfully done, press the System Management button to move into the main window (see later sections)

3.3.   Admin Management Button

Pressing this button will bring up the Admin Management Window. Here you can modify the ID, NAME and PW of the admin.

Additional admin can also be added if needed.

To modify, mark the line of the admin to be modified. Then change the information in one of the textboxes and press Modify Admin Name.

To add a admin, enter a new value in the ADMIN ID textbox and press Add Admin.

Note: The ADMIN NAME and ADMIN PW can be the same for different admins. Only the ADMIN ID needs to be unique.
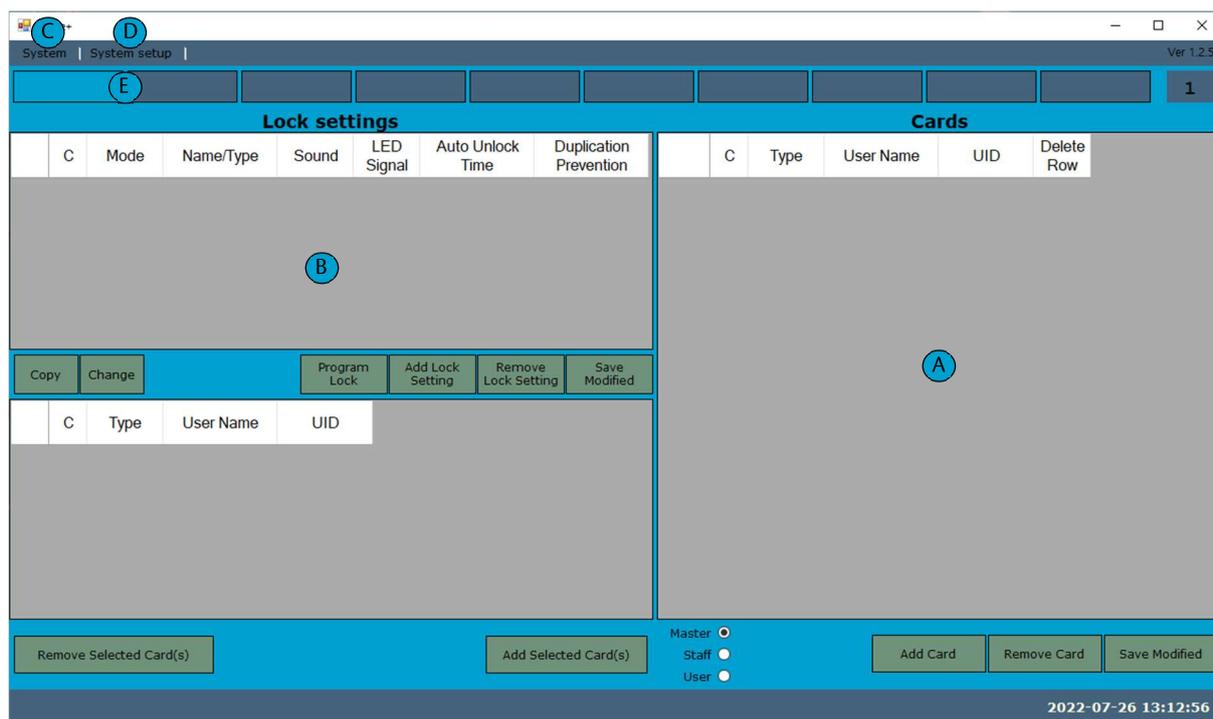

3.4.   Quit Button

Press the quit button the close down the software.
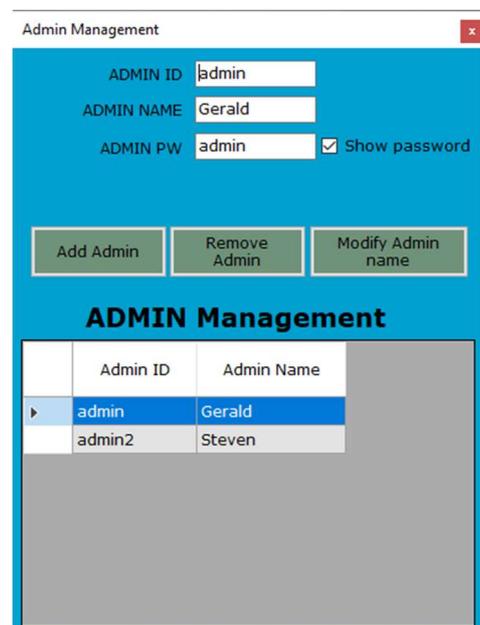
4. Main System Management Window

The first time opening the system management window it will be empty. The window consists of the following main areas and menus.

- A. Card Area (see section 6)
- B. Lock Settings Area (see section 7)
- C. System Menu
- D. System Setup Menu
- E. System tabs

In the following sections the use of area will be described in detail.

5. Create a new system

To start, a system needs to be created. Under the System menu, choose *New System* to bring up the New System Window.

To create a complete new system, the text boxes under Create Empty needs to be filled in.

First enter the system name (mandatory).

If wanted, the system can pre-generate both lines for locks and cards. This can however be left empty as both locks and cards can be added later.

In this example a system called *Public Library is created.* 2 lock (settings), 2 master cards and 1 Staff card is also set to be pre-generated.

Press Create to generate the system.
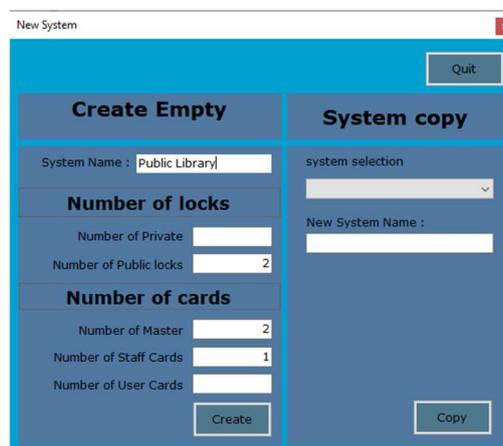
The system is now created and the system name is shown in the first box of the system tabs. Up to 30 different systems can be setup within the software. To move between the systems, simply click on the tab of the system to be shown.
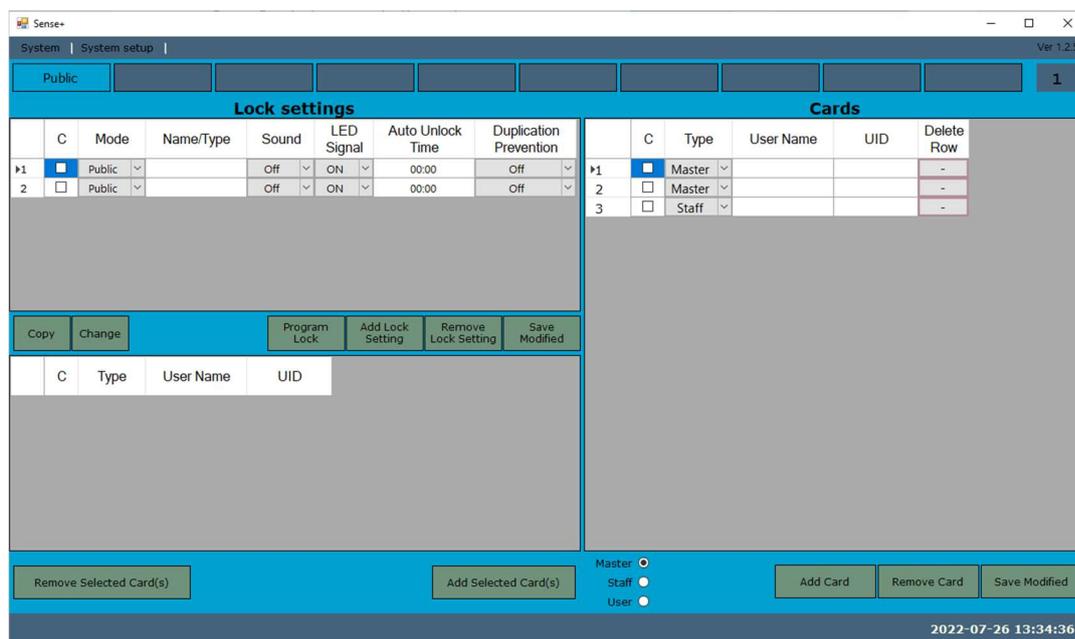
6. Card Area

The Card Area consists of the following features:

A. Selection boxes (section 6.1)
B. Type (section 6.2)
C. User Name (section 6.3)
D. UID (section 6.4)
E. Delete Row (section 6.5)
F. Add Card (section 6.6)
G. Remove Card (section 6.7)
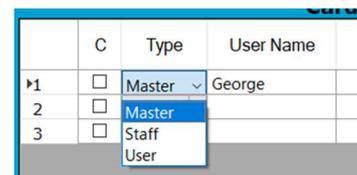H. Save Modified (section 6.8)
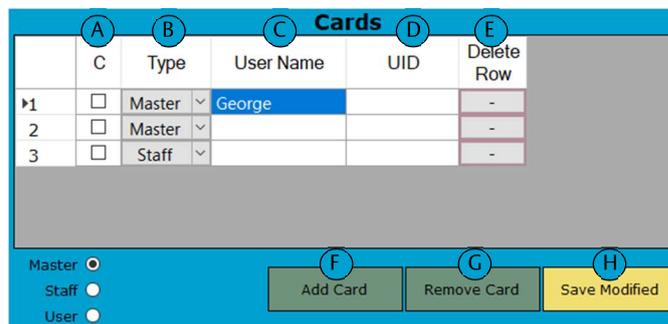
6.1.   Selection Boxes

To select, simply click in the box. To deselect, click the box again. To select/deselect all boxes, click in the "C".

6.2.   Type

Each card can be assigned either as a Master, Staff (public mode locks only) or User (private lock only) to a lock. To change, press the dropdown menu and select the type for the card.

6.3.   User Name

Enter the User Name for each card. The User Name field is not mandatory to fill out, but it is especially useful when reading the locker log.

6.4.   UID

If the UID of the card is known the number can be manually entered. But the UID-number for each card can also be read in by using the lock as a card reader. See later section. In order for the system to work, the UID needs to be filled in

6.5.   Delete Row

Click the "-" sign to delete the row.

6.6.   Add Card

Click the button to add a card. The type of the card added is based on what is selected to the left of the add card button.

6.7.   Remove Card

Click the button to remove cards. All cards selected will be removed.

6.8.   Save modified

The button will turn yellow after changes are made. In order to save the changes the button needs to be pushed. After saving, the button will turn grey again.

7. Lock Settings Area

The Card Area consists of the following features:

A. Selection boxes C (section 7.1)
B. Mode (section 7.2)
C. Name/Type (section 7.3)
D. Sound (section 7.4)
E. LED Signal (section 7.5)
F. Auto Unlock Time (section 7.6)
G. Duplication Prevention (section 7.7)
H. Program Lock (section 7.8)
I. Add Lock Setting (section 7.9)
J. Remove Lock Setting (section 7.10)
K. Save Modified (section 7.11)
L. Copy (section 7.12)
M. Change (section 7.13)
N. Card Registration Area (section 7.14)

7.1. Selection boxes (C)

To select, simply click in the box. To deselect, click the box again. To select/deselect all boxes, click in the "C".

7.2. Mode

To change the mode, simply press the dropdown menu and select either private or public mode.

7.3. Name/Type

Each lock setting can be assigned a name/type to better describe the usage or area where the locks with this specific setting is installed.

7.4. Sound

As default, sound is off. To turn sound on, press the dropdown menu and select On.

7.5. LED Signal

As default, LED signal for occupied locks in public mode is on. To disable LED, press the dropdown menu and select Off.

7.6. Auto Unlock Time

To activate locks in public mode to open after a defined time, enter the value (HH:MM). The valid time range is 00:00 to 24:00

	C	Mode	Name/Type	Sound	LED Signal	Auto Unlock Time	Duplication Prevention
▶1	☐	Public	reception	Off	ON	04:30	Off
2	☐	Public	test	Off	ON	00:00	Off

In the example below locks with the setting "reception" will automatically open after 4 hours and 30 minutes. To turn Auto Unlock of, enter 00:00

7.7. Duplication Prevention (only public mode)

If duplication prevention is activated, the lock will write a blocking code onto the user card which prevents the card from locking more than one lock at a time.

NOTE: Locking prevention is only possible to use with Mifare Classic 1K cards as sectors of Desfire Cards are locked.

7.8. Program Lock

This button is used to program a lock (see section 12). The same commando is also available under the System Setup Menu

7.9. Add Lock Setting

Click the button to add a new lock setting. The setting is by default added as private which can later be changed.

7.10. Remove Lock Setting

Click the button to remove all selected lock settings.

7.11. Save Modified

The Save Modified button will turn yellow after changes are made. In order to save the changes, the button needs to be pushed. After saving, the button will turn grey again.

7.12. Copy

Select the lock setting you want to copy. Press the Copy Button to create a copy to the clip board. With the copied lock setting still selected, press Add Lock settings to create a copy. To clear the clipboard, press Save Modified

7.13. Change

The Change button is used to change an already existing lock setting to the copied setting. With a copied setting on the clipboard, select the line to be changed and press the Change button.

7.14. Card Registration Area

In this area, all cards added to a certain lock setting is shown.

NOTE: The same cards can be added to different lock settings. To show the cards added to a certain setting, simply select the lock setting line.

In this example, the 2 lock settings have the same staff card added but different master cards.

Line 1 – reception selected

Line 2 – lecture hall selected

How to add cards to the different lock settings will be described in detail in section 10.

8. Lock Connection

In order to program locks, or use the lock as a UID reader, the lock needs to be connected to the computer. In order to connect follow these steps.

1. Plug in the connecting cable in a free USB port on the computer and on the side of the lock.	
2. Go to System Setup --> Connect to lock to bring up the Lock Connection Window	
3. Select the COM-port used by the cable. See trouble shooting section on how to find out which COM-port to select if multiple options are available.	

4. Enter the Master Key.	
If the lock that is being connected is in factory mode, the text box can be left empty as no master key is programmed to the lock.	
If there is a UID assigned to the first master card in the software, this UID will automatically populate the text box.	

4A. Connecting lock in Factory Mode	4B. Connecting a programmed lock

5. Press the Connect Button. If successfully connected the lock will sound and a message will show in the bottom left corner. Upon connection, the clock in the lock will also be set/updated.	

9. Read UID

Once connected, the lock will work as a card reader and can be used to read the UID-number of the cards to be used within the system.

Step	Description	Image
1.	Select the line for the card for which the UID-number should be read.	
2.	Present the card to the lock. The UID-number will be read, and the software will select the next line.	
3.	Continue to present cards to read the UID-numbers of the cards.	

4. When reading UID-numbers is completed, press the Save Modified Button to store the UID-numbers

10. Assign Cards to a Lock Setting
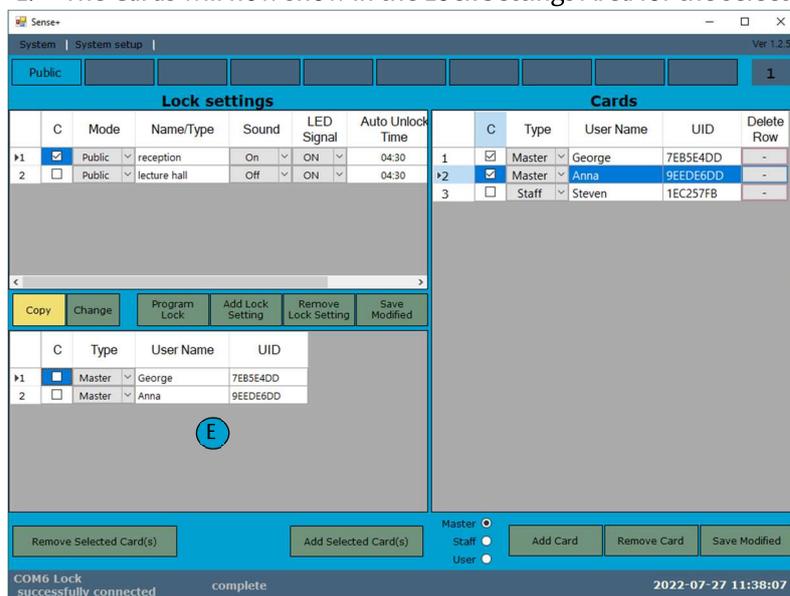
To assign cards to the lock settings, follow these steps.

- A. Select the cards to be added. To select all, click "C"
- B. Select the lock settings to which the cards should be added.
- C. Click the Add Selected Card(s) button. Note that only cards with UID can be added.
- D. Press OK in the pop up window
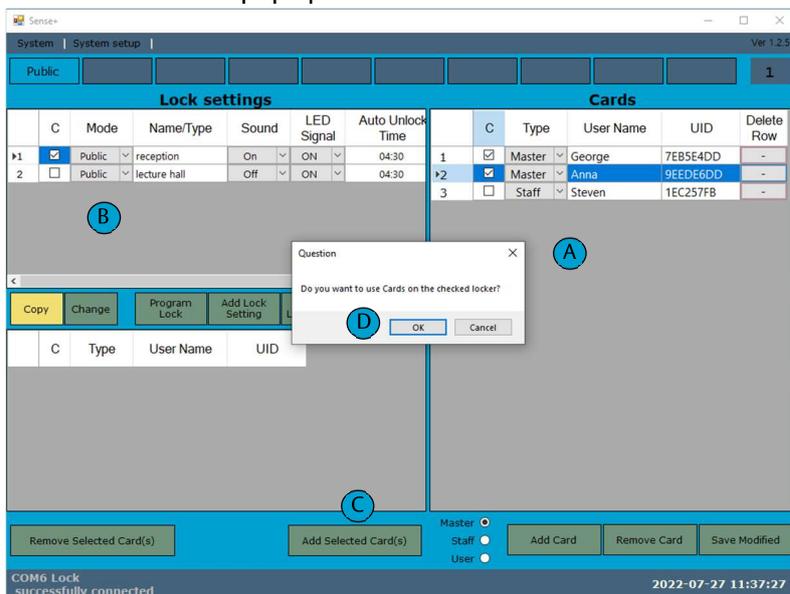
E. The Cards will now show in the Lock Settings Area for the selected lock setting.

11. Remove Cards from a Lock Setting

When removing a card from a lock setting, it needs to be considered if the card should be removed permanently or if the card might need to be added back.

11.1. Temporarily remove a card

A. Select one or many cards in the Lock Setting Area.

B. Click Remove Card(s) Button to remove selected card(s).

11.2. Permanently remove a card

If a card is lost, with no expectation of being found, or destroyed/damaged, the card should be permanently removed from all settings. To do this, simply delete the card in the Card area which the automatically removes the card from all lock settings where it previously has been registered.

In the example below, the Master Card "George" have been removed in the card area and thus also in the lock setting area.

12. Program locks

With a lock setting properly set up and a lock connected, the lock can now be programmed. To program a lock, follow these steps.

A. Select the lock setting to be programmed into the lock.

B. Either press the Program Lock Button or select System Setup-->Program Lock.
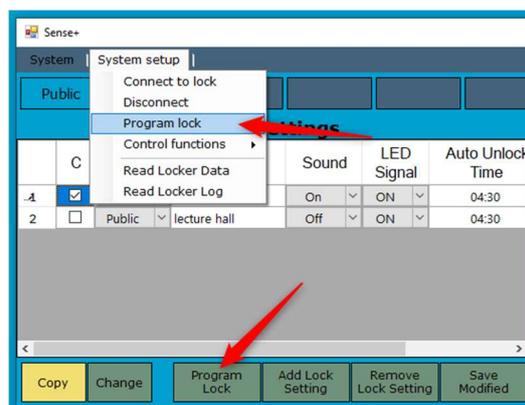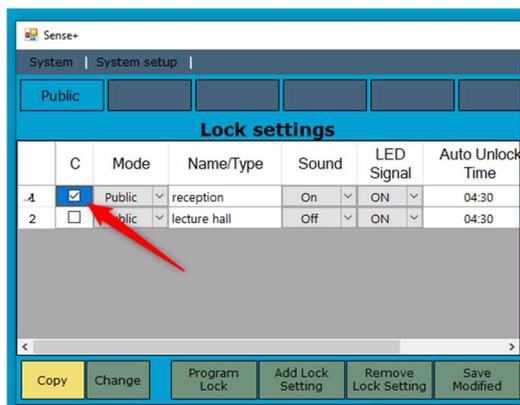
C. Click OK in the pop-up window to start the programming.

D. Upon completion, a confirmation window will show. Click OK to close the window. The lock is now programmed.
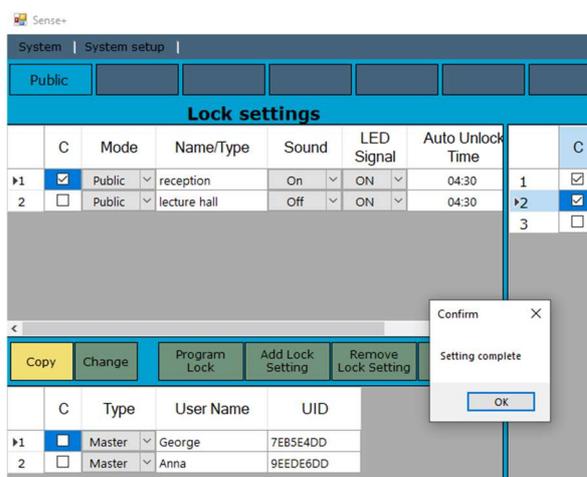
13. Disconnect lock

To disconnect a lock there is 2 methods.

1. Select System Setup --> Disconnect. The lock will immediately go into locker mode and is ready to be used.

2. Plug out the cable and wait 30 seconds until the lock reboots or remove and reinsert the batteries.
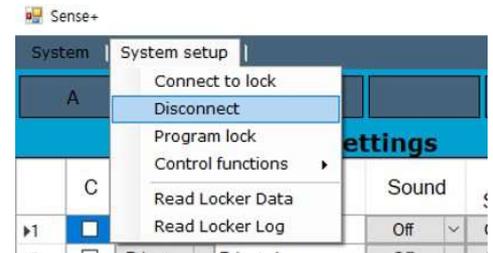
14. Read Locker Log

SENSE+ locks have the capacity to store events. These events can then be read out as a locker log.

Up to 2000 events can be stored in the lock. When capacity is full, the newest log events will replace the oldest.

The time to read the log to the software depends on the number of events stored in the lock

A. Whit a lock connected, click System Setup --> Read Locker Log

B. The Locker Log will be displayed as per below.

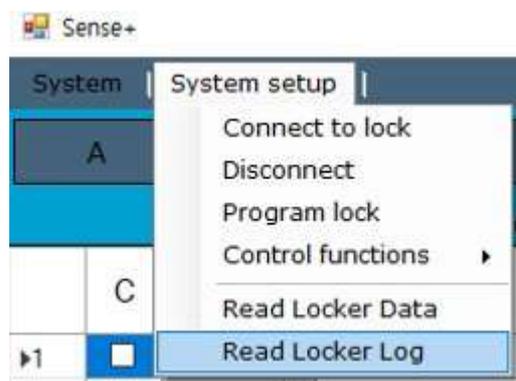| System Name : Public Library				Lock Name : reception		
Log No	Date	Time	Card UID	User Name	Event id	Event Name
0001	22/07/27	12:55:10			0	Factory Reset
0002	22/07/27	12:55:22			8	Lock connected
0003	22/07/27	12:56:28			G	Remove All
0004	22/07/27	12:56:28	1EC257FB	Anna	1	Add Master Card
0005	22/07/27	12:56:28	EE70E4DD	Steven	D	Add Staff card
0006	22/07/27	12:56:53	7EB5E4DD		4	User Card Lock
0007	22/07/27	12:56:56	7EB5E4DD		6	User Card Unlock
0008	22/07/27	12:56:59	9EEDE6DD		4	User Card Lock
0009	22/07/27	12:57:01	9EEDE6DD		6	User Card Unlock
0010	22/07/27	12:57:03	0EFFE4DD		4	User Card Lock
0011	22/07/27	12:57:05	EE70E4DD	Steven	C	Staff card unlock
0012	22/07/27	12:57:12	0EFFE4DD		6	User Card Unlock
0013	22/07/27	12:57:29	1EC257FB	Anna	8	Lock connected

Save Excel

C. If needed, the log data can be exported as an Excel file by clicking the button in the lower left corner.

- If the UID is in the system, it will be matched with the corresponding User Name.
- In the case of locks used in public mode, such as above, it is common that unknown, but compatible, cards are used. Then only the UID number will be display as no corresponding User Name exist for these cards.
- Lockers with newly inserted batteries or not set by the software will record events based on the initial time of the device. The time of the events that occurred before the first connection to the software will be automatically recalculated and displayed based on the time sent by the software.
- As time goes by, the time dilution in the locks will increase, so it might be necessary to reset the time by periodically connecting to software.

15. Locker Data

15.1. Read Locker Data

On certain occasions it might be required to check which settings and cards that are registered on a certain lock.

With a lock connected, click System Setup --> Read Locker Data.

This will bring up the Locker Data window. The following information is presented

A. FW version of the lock
B. Time and Date currently in the lock
C. Locker setting Information
D. Cards registered in the lock. If the UID have a corresponding User Name it will be displayed.

15.2. Overwrite Locker Data to the system

In certain cases, changes that have been done on the lock outside of the software (with the programming cards) needs to be imported into a Lock Setting.

In the example below a 2nd master card have been registered to the lock that currently doesn't exist in the software. The following options can now be chosen

A. Overwrite settings. In this example with the "reception" setting chosen, it will change the sound settings from On to Off

B. Overwrite card UID. In this example it will add the 2nd master card. This card can then be assigned a corresponding User Name

C. Overwrite all. Overwrites both settings and cards.
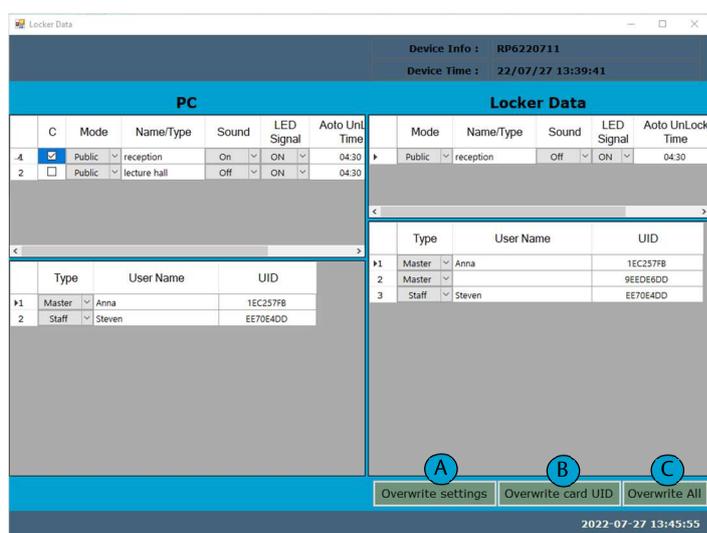
To overwrite the locker data, press any of the 3 buttons and click OK in the popup window.

In the example below, The locker setting "reception" has been overwritten and now contains a 2nd master card and sound off.
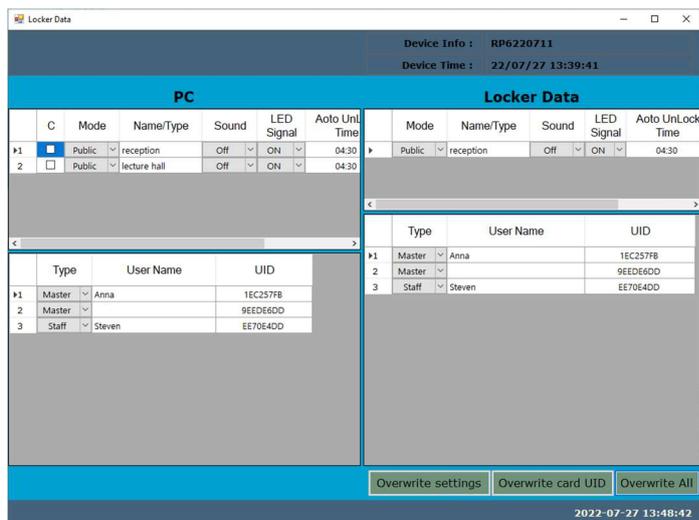
16. Control Functions

Under the system setup --> Control Functions there is 3 commands

- Delete all log: will delete logs in the lock.
- Factory Reset: will reset all settings, but not clear the log.
- Lock Unlock: Emergency Open in case the physical master card and user cards are missing.
  - In public mode, remove user card and open the lock
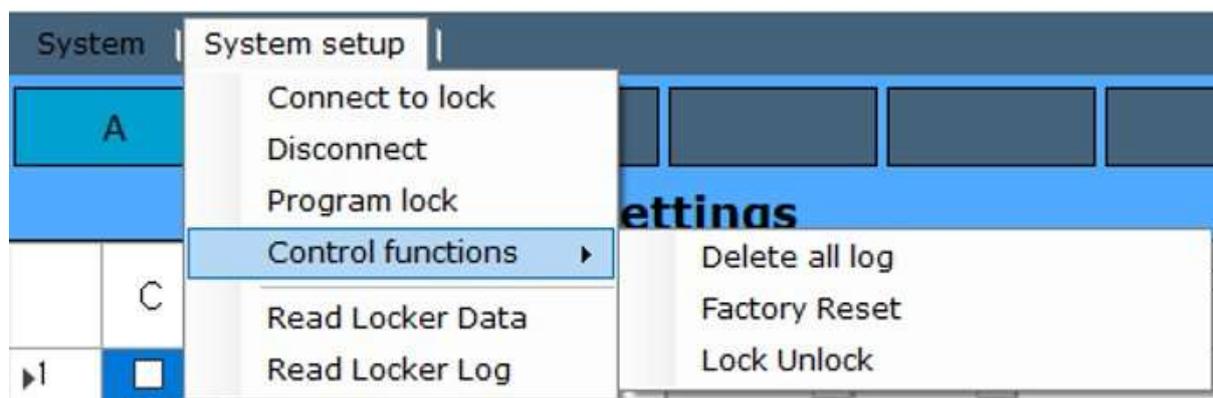
To clear both the log and settings, press the reset button on the back of the lock

17. Copy Card

SENSE+ locks are compatible with the programming kit used for the standard SENSE locks. In the programming kit there are 5 special cards used to program the standard SENSE which for SENSE+ is done by the software.

Note: SENSE+ and SENSE locks are not compatible with other and cannot be used in the same system.

17.1. Copy Card for locks in public mode

Using SENSE+ software together with the Copy Card function can be very useful and will shorten the time needed for deploying a larger public system substantially.

The main idea is to have a "master lock" onto which all settings and cards are programmed. This lock could be mounted on a cabinet but could also be kept in an office close to the PC with the software.

Once the "master lock" is programmed, the copy card is used to read the settings. Instead of now having to go through the facility with the PC and connect and program each lock, the installer only needs to bring the copy card and present to the locks.

The copy card can also be used to upgrade systems in the same manner.

17.2. Copy Card for locks in private mode

The copy card can also be used to setup private system, but it is then important to know that user cards will not be copied/updated by the copy card. User cards need to be registered directly to each lock as normally each lock in private mode have a different user card.

The copy card is however very useful to remove or add master cards, for example if a master card has been lost.

17.3. Copy Card usage

Information on how to use the copy card is found in the SENSE programming guide.

18. Trouble Shooting

18.1.   Detect Com-Port

When connecting a lock, the COM-port needs to be selected. In the case that more than 1 COM-port is possible to select there is 2 options.

1. Test each selection of COM-port until successful connection is achieved.
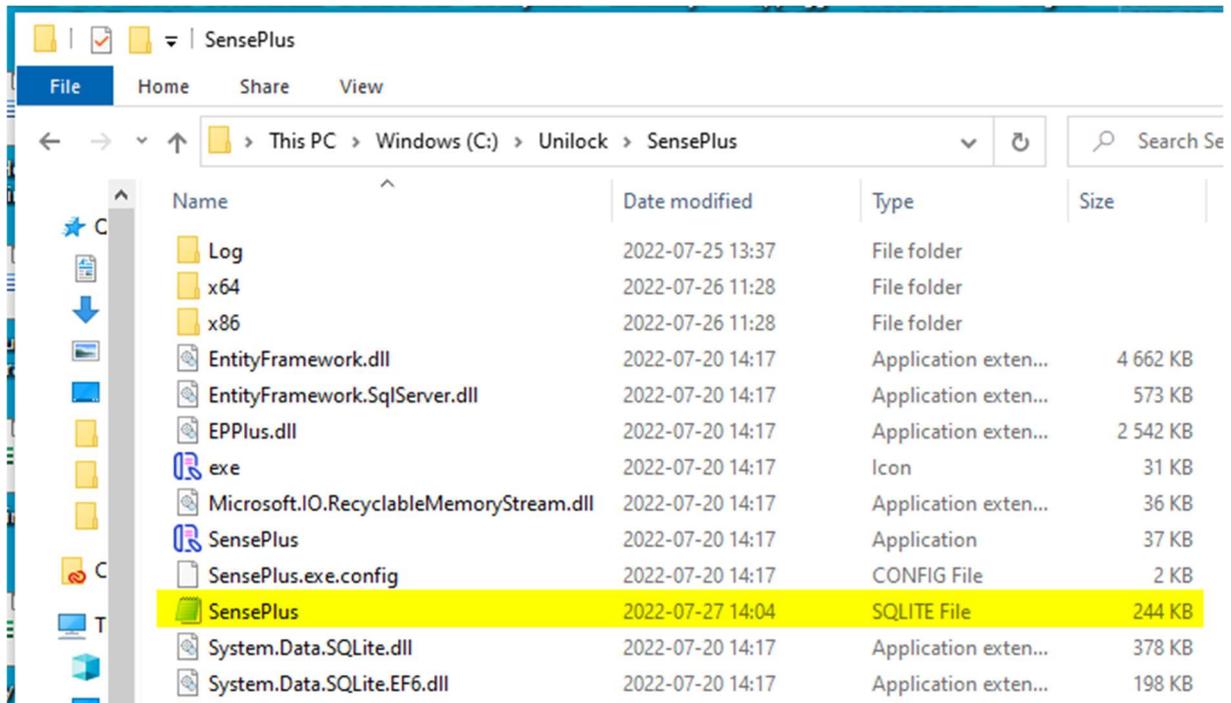2. Check in the Windows device Manager. With the cable taken out of the USB port, expand Ports (COM & LPT)
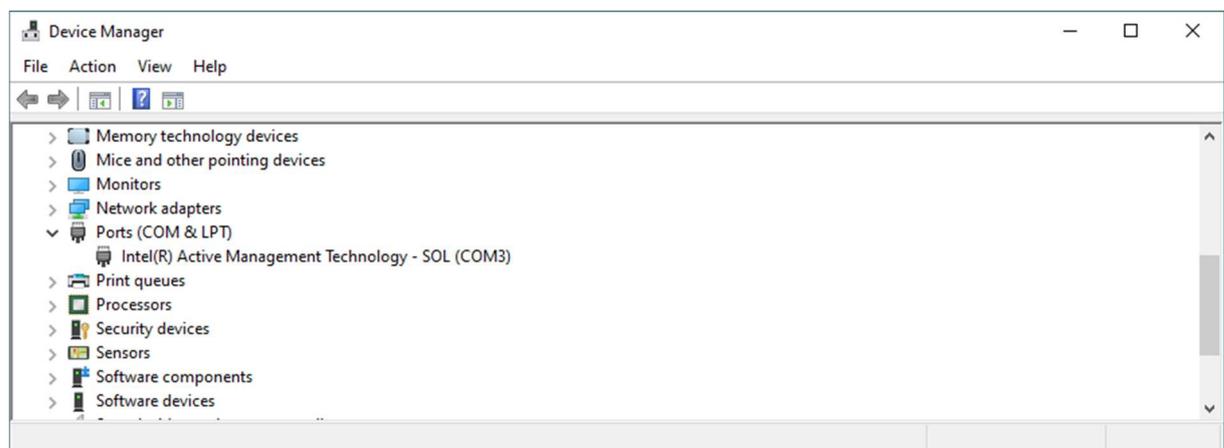
Plug in the cable in the USB port. A new port should show up. In this case COM6 which then should be selected in the SENSE+ software.
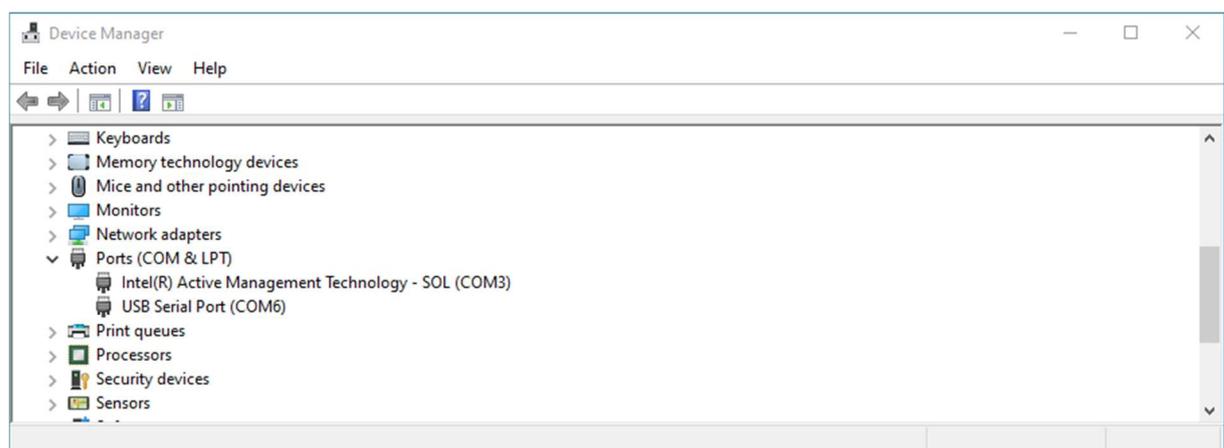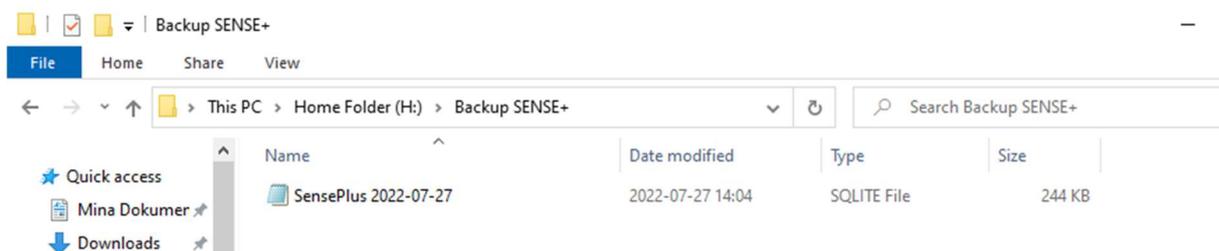
18.2.   Back Up

To make a backup of the systems created, locate the program installation folder and locate the SensePlus.sqlite file.

Copy this file to a secure file location or USB-stick. The file can now be renamed, for example the date of the backup

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To restore, copy the file back to the program installation folder. In order for the backup to work, the name of the file must be changed back to SensePlus.

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Med reservation för eventuella tryckfel och ändringar i informationen efter tryck.

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