SIEMENS

# WinCC

# Copy Protection

**Manual**

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(We have checked the contents of this manual for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in this manual are reviewed regularly and any necessary corrections included in subsequent editions. Suggestions for improvement are welcomed.)

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# 1 Introduction

## 1.1 Software Has a Value

Purchasing a software product gives you the unrestricted right of using that software and its functionality. In addition (according to our terms of business and delivery) you are entitled to benefit from

- our warranty
- our support
- our service

WinCC software is protected against unauthorized utilization. Unrestricted utilization of such a program is only possible if a valid authorization for the program or software package has been installed on the hard disk of the computer concerned.

That authorization represents the license agreement and, consequently, the value proper.

## 1.2 Software Protection and Authorization

### 1.2.1 Authorization Principle

Like all other SIMATIC software products, SIMATIC WinCC has been provided with a software protection. This means that each installed software product requires a valid authorization for unrestricted use. The customer obtains that authorization on an authorization diskette (key disk) when he or she buys a WinCC base software package. The "authorization key" must be transferred onto the PC's hard disk. It releases the software that has been installed from the CD ROM for being used without restrictions. The software may be installed any number of times from the CD ROM.

The authorization key cannot be copied. Without a valid authorization, the WinCC software can only be used in demo mode (see Chapter

Demo Mode: WinCC Without Authorization).

The authorization can be transferred to the computer hard disk either automatically (recommended method) when the WinCC software is installed; or later by the user, using the Authors.exe (authorization program of the WinCC version 3.x) or AuthorsW.exe handling program. Each authorization diskette that contains a valid WinCC authorization is provided with a serial number that is unique throughout the world. The serial number is transferred to the computer during installation; it may be read using the handling program.

The serial number must be stated upon each inquiry (e.g. repair via telephone).

## 1.2.2 Copy Protection Procedure

The authorization key cannot be copied. The copy protection procedure employed here prevents a key diskette with authorizations or the authorizations on the hard disk from being copied. Cryptographic techniques and intervention in the physical data structures prevent that an authorization for a protected program can "operationally" be copied. Thus, you will not be able to duplicate the authorization diskette; you may merely produce a backup of the handling program (all files but the "AX NF ZZ" directory). Please use the emergency authorizations (see Chapter 1.3.2, Emergency Authorization) as a backup.

## 1.2.3 The Multi-Authorization Diskette (MA Diskette)

*MA diskette is yellow*

When WinCC system software has been ordered, a multi-authorization diskette that contains the ordered valid authorization is delivered together with the software on CD ROM. That MA diskette contains additional empty "drawers" that may accommodate authorizations to further WinCC options on the CD ROM. This permits several valid authorizations (e.g. a WinCC configuration in a computer) to be combined on an MA diskette and, at a single command, to be jointly installed or transferred to another device.

## 1.2.4 Emergency Authorization Diskette

*Emergency authorization diskette is yellow*

In addition to the MA diskette, an emergency authorization diskette is included in the delivery. That diskette contains the emergency authorizations that may be used when the full authorization is lost (cf. Chapter 1.3.2, Emergency Authorization).

## 1.2.5 The Single Key Diskette

*Single key diskette is red*

A single key diskette is delivered together with each WinCC option and each program package (process variable upgrade). The single key diskette merely contains the authorization and an emergency authorization for the ordered function. An emergency authorization from the single key diskette may not be collected on the emergency authorization diskette since it will be activated when it is transferred, and becomes invalid 14 days after activation.

## 1.2.6 Handling the Authorization

Each authorization diskette contains the handling program (AuthorsW), that is available in German, English, French, Spanish and Italian. Use AuthorsW to install or de-install authorizations. AuthorsW enables existing authorizations that have been delivered together with V3.04, or higher, to be handled.

*Modify neither name nor attributes of the directory. Previously installed authorizations may irrevocably be lost.*

When an authorization is installed for the first time, AuthorsW creates a directory „**AX NF ZZ**“ on a hard disk. That directory is provided with the "system" and "hidden" attributes. It will automatically be cleared when the last authorization is de-installed.

## 1.2.7 Avoiding Errors

**Never modify the „AX NF ZZ“ directory and its contents.**

**A cluster is marked "defective" when an authorization is installed on the hard disk. Don't try to restore that cluster.**

*De-install authorizations prior to optimizing, formatting, ... the hard disk.*

Prior to employing an optimization program that moves fixed blocks, you must de-install all authorizations. This must also be done prior to formatting, compressing, or restoring the hard disk or prior to installing a new operating system in the computer.

Using compressed hard disks or diskette drives is not possible.

If a backup contains copies of the authorizations, the remaining valid authorizations may be overwritten and, consequently, destroyed when the backup data is written back to the hard disk.

**De-install authorizations before each backup; or do not include the authorization in the backup.**

A lost authorization can be restored (cf. Chapter 4.1, How Can a Defective Authorization Be Repaired?).

## 1.2.8 WinCC Options and Power Packs of Version 3.x

If you possess authorizations of previous versions, you will find the previous version of the AUTHORS handling program (V 4.2 / V 4.3) on those authorization diskettes. Since you have already received the description of that handling program, we will not discuss the AUTHORS handling program in this document.

You may use the new AuthorsW handling program for installing or de-installing the authorizations of previous versions. To do this, copy the new handling program (all files except "AX NF ZZ") onto the authorization diskette of the previous version.

# 1.3 The Authorization Types

## 1.3.1 Full Authorization

*The name of a full authorization begins with an A (e.g. **„A9...“**)*

The full authorization is an authorization that permits unrestricted use of the WinCC software. The authorization is installed in your computer. The AuthorsW.exe handling program exists on each authorization diskette. It shows the authorization data as follows:

| Name | Product | Type | Expiration | Serial nr. | Counter |
|---|---|---|---|---|---|
| Name | Produkt | Typ | Gültigkeit | Serien Nr. | Zähler |
| A9WSEC30 | SIK/SIMATIC WINCC Server | 00 | unbegrenzt | 0002700084 | 1 |

**„Name“** identifies the authorization.

**„Produkt“** [product] is a brief description of the authorization.

**„Typ“** [type] informs about upgrades.

**„Gültigkeit“** [validity] distinguishes between full and emergency authorizations

**„Serien Nr.“** [serial number] is the serial number (ID number KHE) of the authorization.

**„Zähler“** [counter] is the authorization counter.

- „1“ means that the authorization is valid/active and may be installed (diskette is displayed) / de-installed (hard disk is displayed).
- „0“ means that the authorization is on a hard disk (diskette is displayed).

## 1.3.2 Emergency Authorization (Backup Authorization)

*The name of an emergency authorization begins with an X (e.g. „**X9...**“)*

*An emergency authorization is a backup of the full authorization whose utilization is limited to 14 days.*

Since an authorization diskette cannot be copied, the delivery contains a second authorization that can only be used during a limited period of time. If the full authorization is lost, the emergency authorization may be used as a backup of the full authorization. It can be installed to perpetuate operation. Starting from the first installation, its use is limited to 14 days, irrespective of any interruptions in the utilization. After this time, the WinCC software transitions to demo mode (see Chapter 1.4.1, Demo Mode). The 14 days usually prove sufficient for procuring a new authorization from Customer Support (see Chapter 5, Customer Support Contact Partners).

**Manipulating the PC time / date will lead to a premature loss of the emergency authorization validity.**

## 1.3.3 Power Pack: The Upgrade Authorization for Tags

The power pack permits the number of process variables (tags) of a WinCC software configuration to be upgraded (within the same version).

*A power pack is a diskette that contains an upgrade authorization for your WinCC system*

A power pack is an upgrade authorization. Power packs are available for WinCC/RTxxx and WinCC/RCxxx packages. In addition to the associated new emergency authorization, only one upgrade authorization per diskette is delivered. The upgrade authorization can only be used once.

**The upgrade authorization (power pack) merely controls the upgrade program. It cannot be used for WinCC software operation.**

# 1.4 WinCC and Software Protection

The WinCC software can be installed completely and any number of times from the CD ROM.

**Nearly the full range of functions of the software may be used without authorization. Only some options (such as the User Archive) require authorization.**

## 1.4.1 Demo Mode: WinCC Without Authorization

Without authorization, WinCC executes in demo mode. This means that the WinCC software can fully be used for a certain time (one hour). This behavior enables the WinCC software to be used for tests and demonstrations, and permits modification configuration to be performed on site if merely RT authorization is available.

- In a runtime system (RTxxx), a box is displayed after one hour. That box, which must be acknowledged, asks you to order the valid full authorization. The box reappears every 10 minutes and must be acknowledged.

**Even without authorization, process operation with an archiving or signaling system is fully executable without data loss.**

- The configuration software (RCxxx) is terminated after one hour. Modifications may be saved. Control Center and, if available, the run-time system continue. After each editor restart, work is possible for another 10 minutes.

WinCC must be restarted to exit demo mode if an authorization is installed during demo mode.

## 1.4.2 WinCC with Emergency Authorization

Compared with the full authorization, there is a period of 14 days during which there will be no restrictions in the functions if WinCC is used with emergency authorization. After that period, WinCC authorization transitions to demo mode.

## 1.4.3 WinCC if the Permissible Number of Tags is Exceeded

If the permissible number of tags is exceeded in **run-time mode**, WinCC transitions to demo mode. The number of tags is not checked in a Client.

WinCC operates in demo mode if configuration is performed without RC authorization. In this case, the editors may be used until demo mode expires.

## 1.4.4 WinCC if Option Authorizations are Missing

If data is configured for an option or a channel DLL, unrestricted operation is only possible if all authorizations have been installed. If the authorization for an employed option or a channel DLL is missing, WinCC transitions to demo mode, irrespective of the existence of other authorizations.

## 1.4.5 RT and RC Authorizations

WinCC distinguishes between ***RT*** authorization (run-time) and ***RC*** authorization (run-time and configuration). Further distinction is made according to the number of variables.

An **RT authorization** permits unlimited utilization of WinCC in run-time mode. Using the editors is only possible in demo mode, and for a limited time.

An **RT authorization** permits unlimited utilization of WinCC in run-time mode and in configuration mode.

**RT xxx / RC xxx** specifies the number of variables that are permitted for configuration. An RC 1024 RC authorization, for example, permits 1024 external variables to be used.

**The number of variables is only checked in a Server. Provided that there is an RT/RC authorization, a Client may therefore always be used with the maximum number of tags (64*1024).**

# 2 Installing and De-Installing Authorizations

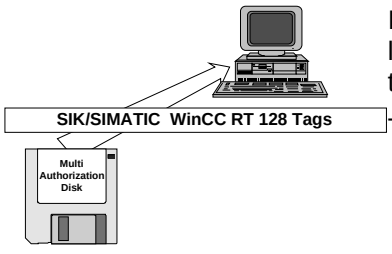
## 2.1 System Requirements

*Please read the Readme.txt file before you begin with installing or de-installing an authorization.*

An authorization can only be installed on a local drive. Installation on a RAM drive, a diskette or a compressed drive is not possible. Exception: With a compressed drive, installation is possible on the associated host drive. Installation requires a minimum of 15 MB of free disk capacity. Any number of **different** authorizations may be installed as long as the storage space on the hard disk proves sufficient.

**There will be a write access to the authorization diskette when an authorization is installed or de-installed. The authorization diskette must therefore not be write-protected.**

## 2.2 Installing Authorizations




Installing an authorization means that the authorization is activated on a local drive, and de-activated on the diskette so that WinCC is able to employ the authorization.

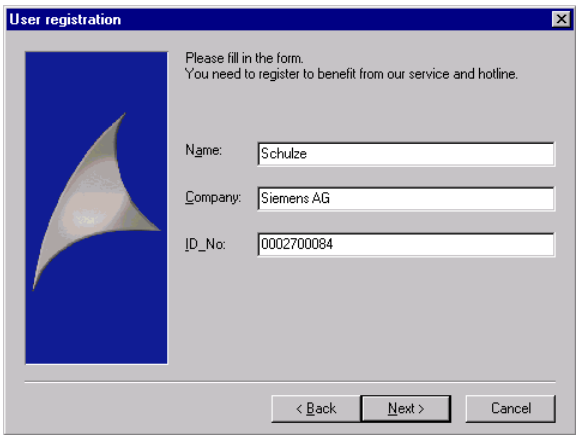
There are two different ways of installing a WinCC authorization:

- **automatically** during the installation of the WinCC software. The setup program will lead you through the installation procedure (recommended method).
- **subsequently** using the AuthorsW.exe handling program that is included on the authorization diskette.

## 2.2.1 Installing the Authorization via WinCC Setup (Recommended Method)

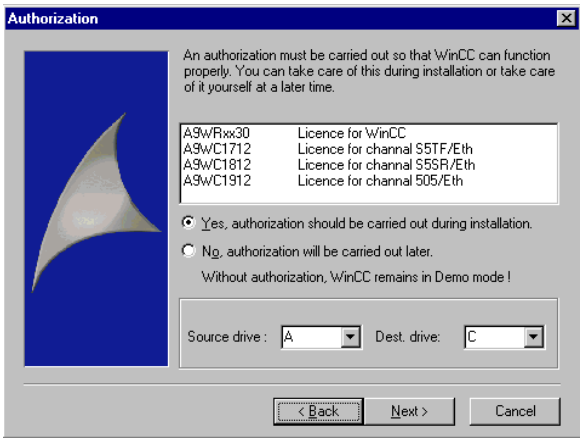
During the setup of WinCC, the authorizations are included in the installation procedure. This is done in the following steps:

***1. Time of registration***




*The serial number (10 digits) can be found on the authorization diskette (see Chapter 6.1 - Typical Label on an Authorization Diskette) and the Software Product Note, or via the display function of the handling program.*

***2. Selecting the time of authorization transfer***




- *Yes, authorization shall be performed during installation*

The setup menu shows the authorizations that are required by WinCC, and permits the source and target drive to be selected.

***3. Inserting the authorization diskette***

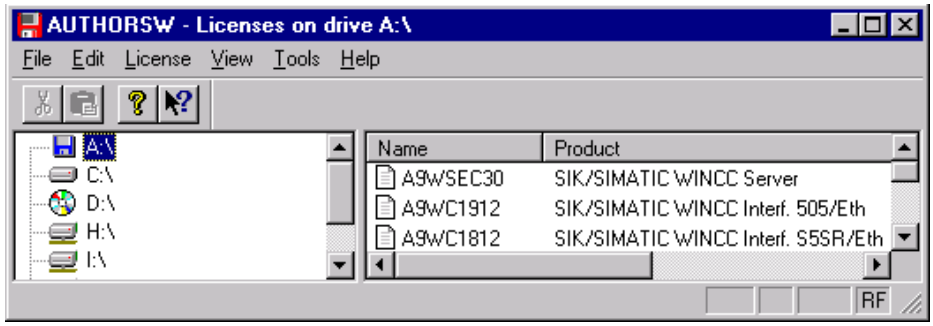
Merely confirm the request for inserting the authorization diskette if diskette drive A is the source drive.

## 2.2.2 Installing Authorizations via AuthorsW.exe

The AuthorsW.exe handling program that is required for the installation can be found on each authorization diskette. Use AuthorsW for installing and de-installing authorizations. AuthorsW displays the existing authorizations.

***Displaying the authorizations that exist on drive A:***

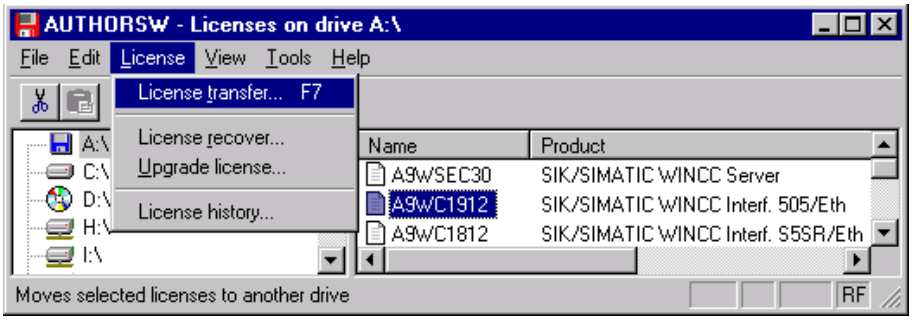
*Note: The diskette must not be write-protected*



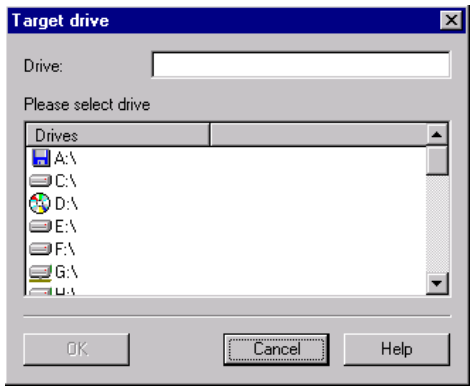

After an authorization has been selected, the *Authorization/Transfer* menu item can be used for installing that authorization from the authorization diskette onto the local drive. The drive is selected from a different screen.

***Transferring the authorization***

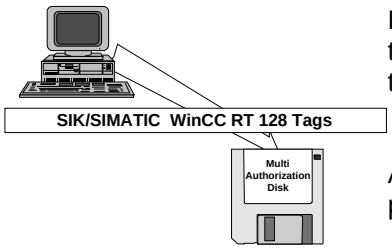
*An authorization may also be moved using the „Drag & Drop“ function*




The transferred authorizations are written to the „AX NF ZZ“ directory (see Chapter 1.2.6, Handling the Authorization).



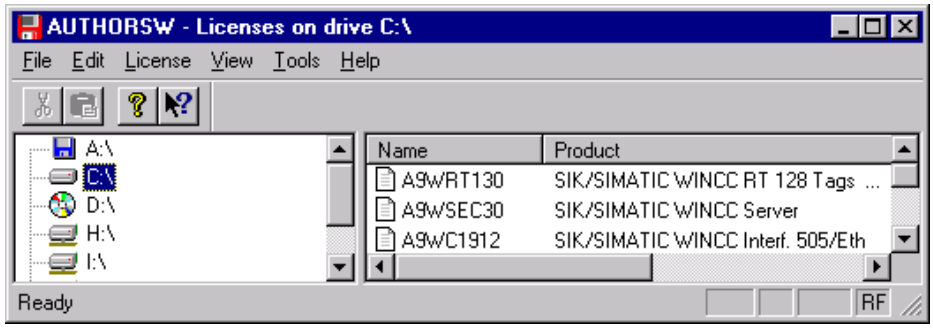
# 2.3 De-Installing the Authorization




De-installing an authorization means that the authorization is de-activated on the local drive and re-activated on the diskette (typically the MA diskette), so that the authorization may be used in a different device.

An authorization is always de-installed with the AuthorsW.exe program. That program can be found on each authorization diskette.

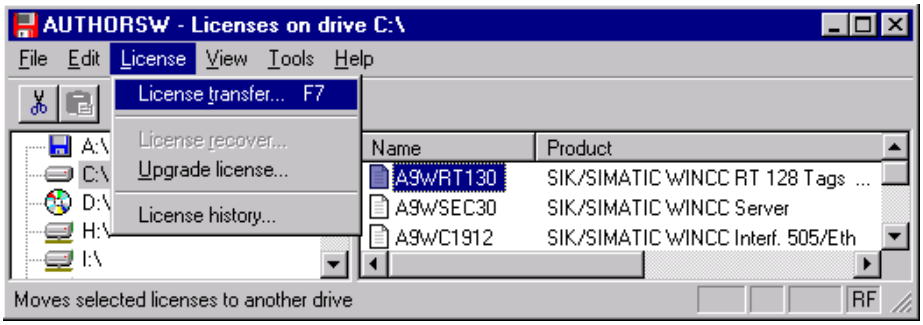
***Displaying the authorizations that exist on drive C:***

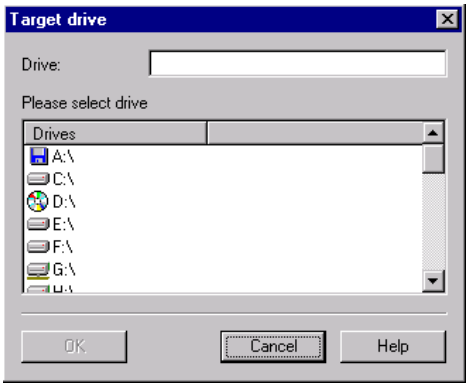



After an authorization has been selected, the *Authorization/Transfer* menu item can be used for de-installing that authorization from the source drive to an authorization diskette.

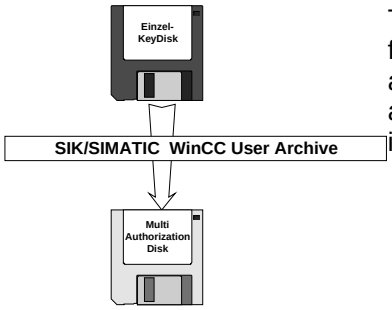
***Transferring the authorization***

*An authorization may also be moved using the „Drag & Drop“ function.*



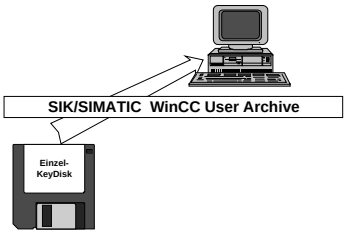
# 2.4 Gathering Authorizations on the Multi-Authorization Diskette (MA Diskette)




The MA diskette contains empty "drawers" that permit further authorizations from the single key diskette to be accommodated. These single authorizations may be collected on the MA diskette. This enables all authorizations that belong to a WinCC software configuration to be jointly installed and de-installed. Transfer between devices is easier, too.

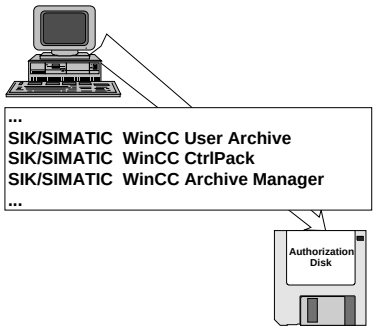
Authorizations are gathered up via the installation of the individual authorizations from the single key diskettes onto the hard disk and the de-installation of those authorization onto the MA diskette. Both steps are performed using the **AuthorsW.exe** handling program.

**This does not apply to emergency authorizations.**




***Transferring the single authorizations onto the hard disk***

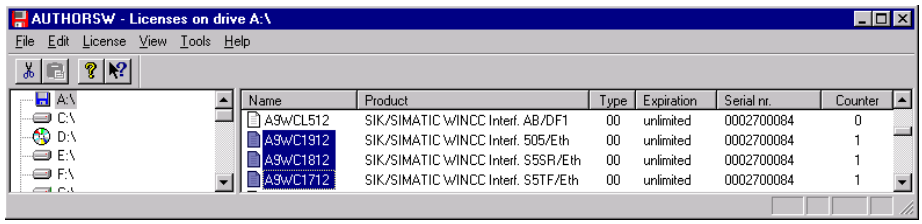
- Transferring the single key diskette onto the hard disk drive (see Chapter 2.2, Installing Authorizations).
- This procedure must be repeated for each single key diskette.




***Transferring the collected authorizations onto the MA diskette***

- Marking the authorization that have been collected on the hard disk (using the *Edit/Mark all* menu item, for example).
- Transferring the authorizations onto the MA diskette (see Chapter 2.3, De-Installing the Authorizations).

All authorizations that have been transferred to the MA diskette are marked there by a "1" in the counter column. They may now be transferred to a different device.

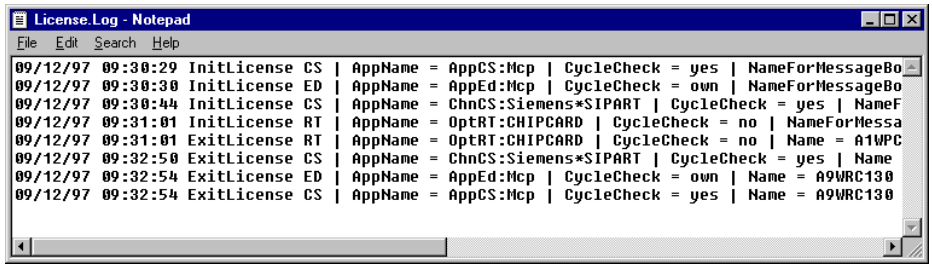



# 2.5 Diagnosis of Authorization Problems

WinCC offers a diagnosis file that may be used for fault-finding if WinCC continues transitioning to demo mode after the authorizations have been installed.

The diagnosis file is called Licence.Log and can be found in the *WinCC/Diagnose* path. This path is created automatically when WinCC is installed.

Licence.Log shows the invoked authorizations.




**WinCC transitions to demo mode if the authorization of an employed option is missing.**

# 3 Upgrading the WinCC System

## 3.1 Upgrading the Number of Variables (Tags)

*You need:*

⇒ RT/RC authorization that is to be upgraded

⇒ Power pack diskette with upgrade authorization and upgrade program

An upgrade program is used for upgrading the permissible number of variables. The program that must be started for controlling the upgrade procedure depends on the power pack.

The required upgrade program is on the single key diskette that is contained in the power pack.

- De-install the authorization that is to be upgraded if the upgrade process is not performed at the computer that contains the authorization.

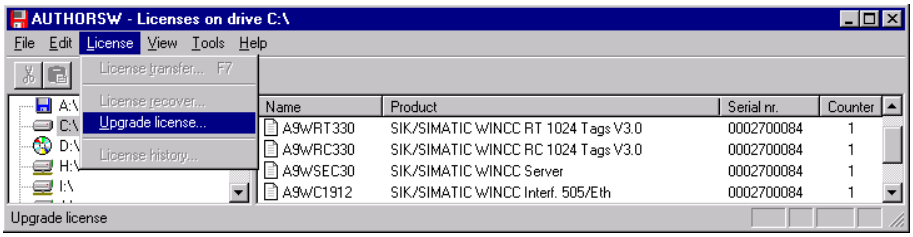
- Insert the power pack key diskette.
- Start the AuthorsW handling program from the key diskette.
- Select the *Authorization/Upgrading* menu item.
- Start the Upgradexxx.exe upgrade program from the key diskette

- Insert the MA diskette (if it does not yet exist, the authorization that is to be upgraded will be transferred to the MA diskette and made invalid).

- Insert the power pack diskette again.
- Continue the upgrade process.
- Transfer the upgraded authorization to the local drive.

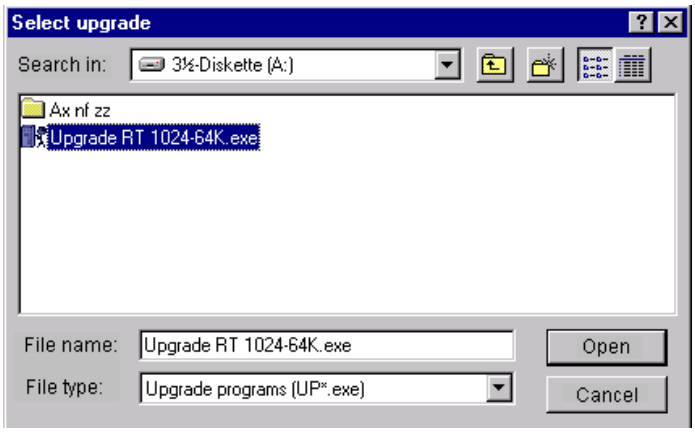
# 3.2 Upgrading the WinCC System

Start the AuthorsW.exe program that is supplied on the power pack key diskette, and select the *Authorization/Upgrade* menu item.

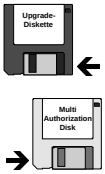



The upgrade program that controls the upgrade procedure is selected and started in the following menu window. The window is also contained on the key diskette that is interrogated automatically.

The power pack key diskette contains only the actually required upgrade program

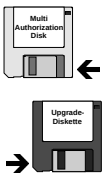


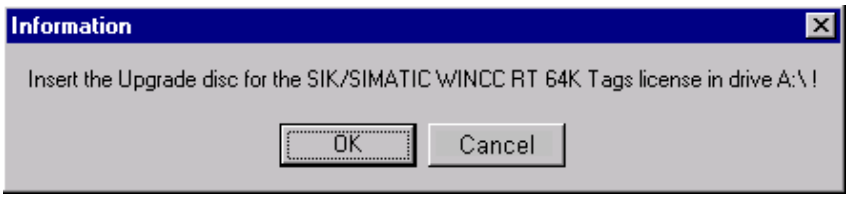

The MA diskette must be inserted in the next step in order to be able to make the authorization that is to be upgraded invalid, or to transfer it to the MA diskette.



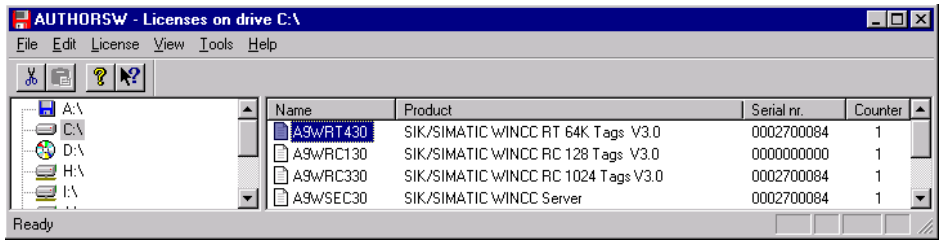
If the authorization is still in the local drive, it must be transferred to the MA diskette. To continue the upgrade procedure, select *OK* to confirm the screen.

The power pack key diskette is required again in the last step. The upgrade process is terminated when the upgraded authorization is transferred to the local drive.




Once the authorization process has been completed, there is an upgraded authorization on the local drive.



# 4 Repairing Authorizations

An authorization is defective if it cannot be accessed on the hard disk and, consequently, not be removed by the AuthorsW handling program.

**In most cases, the authorization may be "repaired" with Customer Support helping via the phone.**

***Relevant customer data***

Please have the following data available (Customer Support requires this data to be able to repair swiftly):

1. **Company specifications** (name, address, country, phone/fax, ...)

A list of the lost authorizations together with order number and serial number (ID number KHE).

2. **Product order number** (e.g. „6AV...“) and product name in plain text.
3. The **serial number (ID number KHE)** is shown on each authorization diskette (see Chapter 6.1 Typical Label on an Authorization Diskette and in the Software Product Note. It may also be read using AuthorsW (see Chapter 1.3.1 Full Authorization).
4. Have the **diskette drive type** specification ready. Under Windows 95, this information can usually be obtained from *System Control* under *System/Device Manager*.
5. **Description of the steps** that led to the loss of authorization.

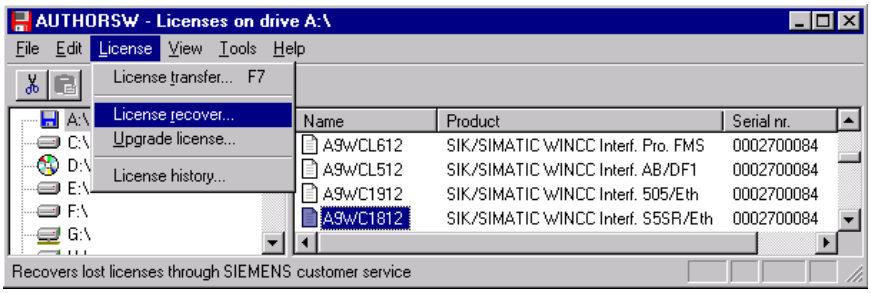
# 4.1 How Can a Defective Authorization Be Repaired

- Call Customer Support (see Chapter 5, Customer Support Contact Partners) and give them your Customer Data.
- Insert the MA diskette that contained the lost authorization into diskette drive A:\, and start the AuthorsW.exe handling program.

Once an authorization has been selected on the MA diskette, it may - with the help of Customer Support - be "repaired" via the *Authorization/Restore* menu item.

***Restoring the authorization***

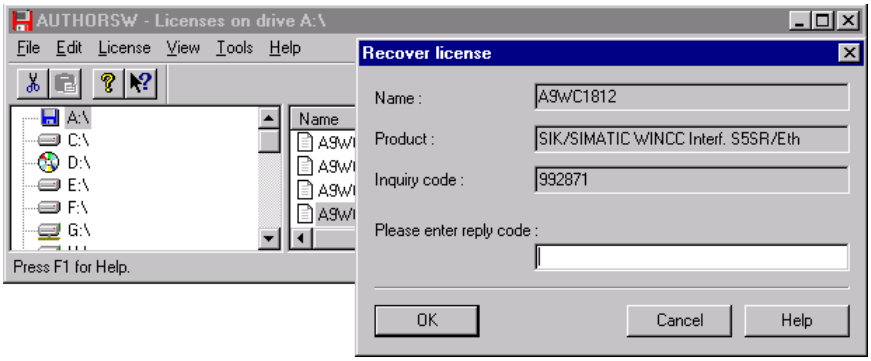
*A lost authorization cannot be repaired directly on the local hard disk drive.*




A 6-digit numeric **request code** is displayed together with the selected authorization. Give Customer Support the **request code** of your lost authorization.

Customer Support will give you a 12-digit numeric **enabling code**. Enter that code in the input field.

*The process must be repeated if more than one authorization has been lost.*




The lost authorization will be enabled on your MA diskette (counter = 1), and may now be installed on your local drive.

## 4.2 Telephone Repair of the Authorization is not Possible

If the authorization diskette cannot be accessed for telephone repair, the emergency authorization may be used for an interim period (up to 14 days). In this case, Customer Support will replace the authorization diskette.

# 5 Customer Support Contact Partners

Prior to getting in contact with Customer Support:

- read the *README.TXT* file (you will find it on each authorization diskette);
- have company specifications, order number, and serial number (ID number KHE) available (cf. Chapter 4, Repairing Authorizations);
- start the *FaxFormX.wri* form that is contained on the authorization diskette in German, English, and French, complete it, and fax it to one of the addresses listed below;
- print the *License.log* file (see Chapter 2.5 Diagnosis of Authorization Problems).

Please ring Customer Support if you need any further help with authorizations. Responsible are:

**Europe / Africa:**

| | |
|---|---|
| **Phone:** | **+49/(911)895 -7200** |
| **Fax:** | **-4212** |

**Asia / Australia:**

| | |
|---|---|
| **Phone:** | **+65/740 -7000** |
| **Fax:** | **-7141** |

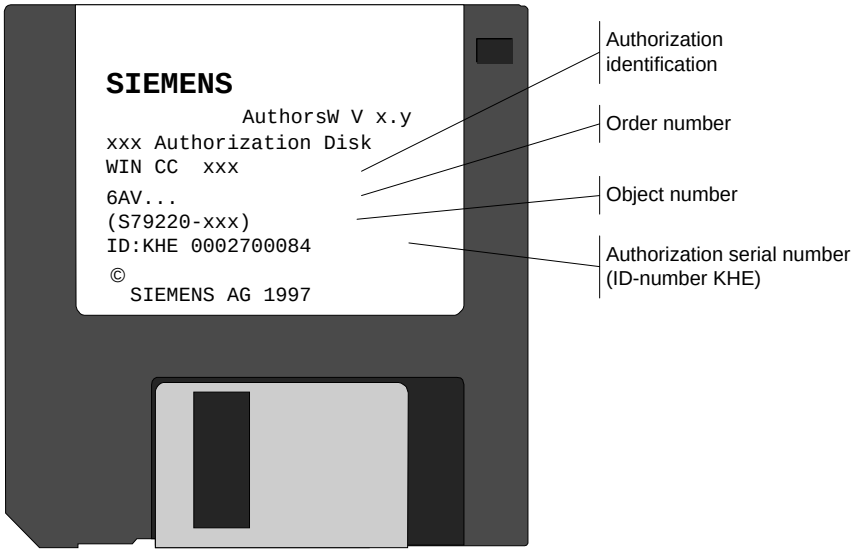
**America :**

| | |
|---|---|
| **Phone:** | **+1/423-461 -2420** |
| **Fax:** | **-2289** |

**You will find the Customer Support home page under the Internet address http://www.aut.siemens.de/simatic-cs. The latest authorization handling program is always available under *Software General* in the *Downloads* section.**

# 6 Appendix

## 6.1 Typical Label on an Authorization Diskette




A single-authorization diskette is RED

Multi-authorization diskettes and emergency authorization diskettes are YELLOW.