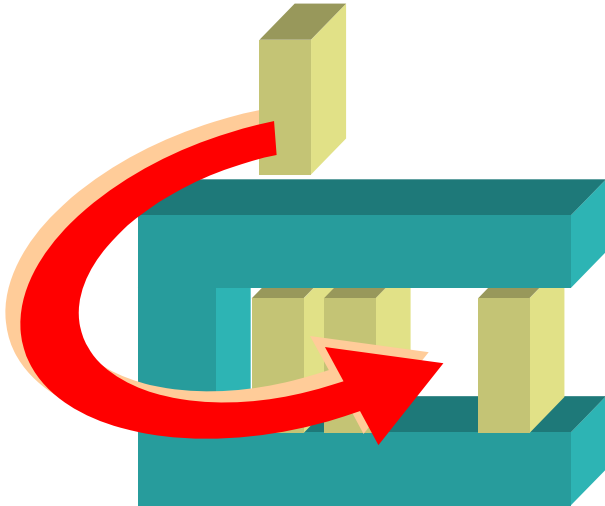


SIEMENS



MM8000 MP3.20

MM8000 MP4.xx

MAXSYS Intrusion Control Unit

Add-on module

**Installation, Configuration,
and Operations guide**

Building Technologies

Fire safety & Security Products

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About this document

Purpose of this document

This manual is a guide to the installation, configuration, and operations for the MM8000 Management Stations that includes the MAXSYS intrusion control units. It presents the Add-on module for the MAXSYS support.

Individuals performing the operations described in this manual are expected to have prior expertise and training in the field of safety and security, at least a moderate level of familiarity with the Siemens Building Technologies product line, and experience with the installation, configuration, and commissioning of security management systems.

Scope

This document applies to the MM8000 Management Station MP4.20 and can be also used for MM8000 MP3.20 and in general for MP4.xx.

Modification index

Document index	Date	Notes
A6V10238694_a_en	06.2009	Corresponds to version MP4.20 of the MM8000 Software (new Add-on Manager for software installation).
008751_b_en	09.2006	Corresponds to version MP3.20 of the MM8000 Software
008751_a_en	05.2005	Corresponds to version MP3.10-02 of the MM8000 Software

Reference documents

The **DMS8000 Documentation Resource Information Guide** document assembles in one place important information regarding documentation resources. It contains the following:

- Comprehensive definitions of the target audiences for FS DMS documents
- Training program information including the Siemens intranet link
- A complete list of all available DMS8000 documents
- Instructions for how to obtain a document via the Siemens intranet using the STEP Documentation Repository System
- A map of relevant documents for each target audience group
- Customer Support links & resources
- A glossary containing definitions of all terms and acronyms used in DMS8000 documentation

To access the **DMS8000 Documentation Resource Information Guide** (STEP #A6V10089056), go to the link and follow the instructions below:

<https://workspace.sbt.siemens.com/content/00001123/default.aspx>



1. Click on the **STEP WEB Client** image:
2. Choose **04 Fire -3F** from the **Product Segment** box and select **Activate filter**.
3. Select **All** in the **Documents** section of the **Quick Search** page and then select **Advanced Search**.
4. Enter the document number in the **Brochure No.** field (e.g. A6V10089056) and press **Enter**.

Operational and safety regulations



Before beginning work on the MM8000 Management Station for the Autronica BS, you must have read and understood the Operational and Safety Regulations included in the following documents:

- A6V10062425 - DMS8000 Connectivity Configuration Guide.
 - A6V10062413 - MM8000 Installation, Configuration and Commissioning.
 - A6V10062437 - NK8000 Installation, Configuration and Commissioning.
-

Liability disclaimer for damage or injuries

Before products are delivered, they are tested to ensure they function correctly when used properly. Siemens disclaims all liability for damage or injuries caused by the incorrect application of the instructions, or the disregard of danger advisories. This disclaimer applies in particular to personal injuries or damage caused by:

- Improper and/or incorrect use.
- Disregard of safety instructions in the documentation or on the product.
- Poor maintenance or a lack of maintenance.

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 welcome.

1 Introduction

The MAXSYS is an intrusion security system based on the PC6010 control unit, which can support up to 256 zones (16 on the main board and the rest on PC6108A 8-zone expansion modules) in 32 separate areas.

The user interface is based on the PC6501 panels (max 64), which can guide users through the available options according to their access level (basic, advanced, supervisor, or master).

The PC6010 main board comes with 2 programmable outputs, and you can add up to 208 more using PC6204 (4-relay) and PC6216 (16-transistor) modules.

Access control functions can be supported by the MAXSYS system: up to 32 doors, using the 2-door modules PC6820.

The status of the PC6010 system can be monitored over a dedicated and multi-point **backbone** network and PC6442 and PC6443 interface modules. Communication to an external system can be encrypted.

MAXSYS integrated into MM8000

The MM8000 can support the MAXSYS systems over the NK8000 network devices. Each NK82xx serial port can support up to 32 PC6010 units via a PC6442 interface.



MAXSYS access control functions are not supported by the MM8000.

1.1 Version supported

MM8000 MP3.20 and later, equipped with MAXSYS add-on extensions, can support the MAXSYS Firmware version 2.11.

1.2 What has been changed in MP4.20

Here is the list of modifications included in MP4.20 for new functions and software improvements.

Section, Page	Modifications
	New NK823x units
2.2.3.2, p.8	New Add-on Manager used for installing the add-on software in MM8000 MP4.15 and later

2 Installation

2.1 Distribution package

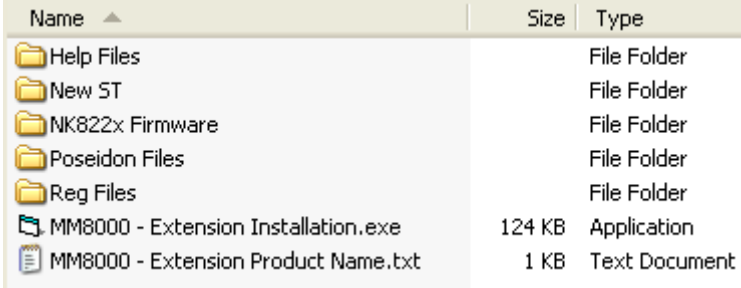
The MM8000 software for the MAXSYS support is distributed as an add-on package, to be installed on the stations including the Composer tool (client-only and FEP stations are therefore excluded) after the standard MM8000 Setup.

The package is named: **MM8000 - Subsystem extension N. 02 (Maxsys Vy.yy)**.

Installation kit

The installation kit includes (Fig. 1):

- The new **Help Files**, describing the MAXSYS configuration procedures.
- The new Composer Subsystem Tool (**New ST**) for the MAXSYS models.
- The firmware for the NK82xx units (**NK822x Firmware**), i.e. the DLL module supporting the MAXSYS protocol.
- The **Poseidon Files**, including the definitions of the MAXSYS data structures.
- The registry file folder (**Reg Files**), containing a command for registering the add-on package.
- The installation utility: the **MM8000 – ST extension Installation.exe** program.
- The extension name text file; namely: **MM8000 – ST extension Product Name**.



Name	Size	Type
Help Files		File Folder
New ST		File Folder
NK822x Firmware		File Folder
Poseidon Files		File Folder
Reg Files		File Folder
MM8000 - Extension Installation.exe	124 KB	Application
MM8000 - Extension Product Name.txt	1 KB	Text Document

Fig. 1 Installation kit

2.1.1 Installation checklist

ITEMS NEEDED FOR THE INSTALLATION

- The MM8000 Setup kit
- The **MM8000 MPx.xx - Subsystem extension N. 02 (Maxsys Vy.yy)** installation kit
- The MM8000 hardware key (dongle)
- The MM8000 license PAK code (or the REG file that contains it)

INSTALLATION CHECKLIST

- 1. Install the MM8000 hardware key
→ DMS8000 Network, Fire, and Intrusion Connectivity Configuration Guide
- 2. Install the MM8000 Software
→ MM8000 Installation, Configuration and Commissioning
- 3. Install the NK8000 units (NK82xx)
→ NK8000 Installation, Configuration and Commissioning
- 4. On the station(s) with configuration capability (Composer tool),
install the MAXSYS add-on p. 6
- 5. Install the new Subsystem Tool p. 7
- 6. Update the NK8000 firmware p. 10

2.2 Software installation

2.2.1 Requirements

The support for MAXSYS does not add any special requirements to the standard MM8000. Therefore, software and hardware requirements are the same as for the base MM8000 software, as described in the document no. A6V10062413, MM8000 Installation, Configuration and Commissioning.

As far the NK8000 network is concerned, the requirements are described in the document no. A6V10062437, NK8000 Installation, Configuration and Commissioning.

Note that MM8000 must be properly installed before the add-on can be installed. For more information on the MM8000 installation, please see the mentioned A6V10062413 document.

The MAXSYS add-on package is designed to work with MM8000 MP3.20 and higher. Contact FSP-DMS support to verify the compatibility with other versions.

2.2.2 Software License

An additional license is required to run the MAXSYS module. On top of the base MM8000 license codes, a specific PAK is therefore needed.

Therefore, the required license includes:

- WW8000 Composer (project configuration and download): Composer License or Service key.
- NS8210 driver: NK8000 connections, indicating the number of NK82xx units.
This license is required for enabling the network driver and the NK82xx units communicating with the MAXSYS control units.
- MM8000 core, no. of subsystems.
This license should include the number of MAXSYS control units.
- MM8000 core, no. of devices.
This license should include the number of MAXSYS physical objects (detectors, auxiliary and control outputs).
- MAXSYS add-on license.
→ Check detailed sales policy for your country.

Other licenses, covering more MM8000 options, may or may not be used and they are not related to the MAXSYS support.

2.2.3 MAXSYS Add-on Installation

The following are the installation procedures for the MODBUS add-on module.



Depending on the MM8000 version a different installation procedure is foreseen. Please select the appropriate procedure.

2.2.3.1 Installation on MM8000 MP3.20 and MP4.10

1. Copying files

The add-on installation is quite simple. The installation kit includes the **MM8000 – ST extension Installation.exe** utility (Fig. 2 below). Just run this program and the add-on files will be copied onto the local hard disk in the appropriate folders.

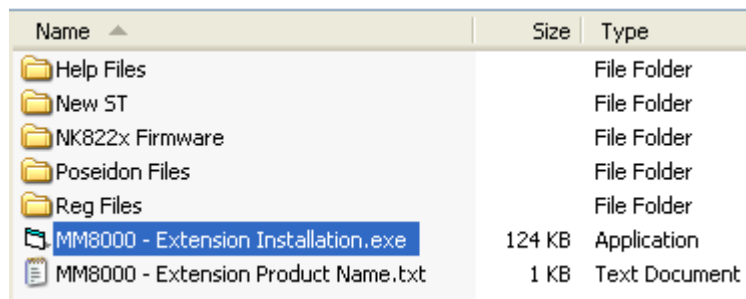


Fig. 2 Starting the add-on installation

2. Installing the Subsystem Tool

Composer requires that the tools are installed using a specific procedure. Therefore, a small utility is also launched in order to add the MAXSYS Subsystem Tool (ST) in to the Composer tool set.

The utility shows as illustrated in Fig. 3. Click **Install** to proceed.



The installation procedure requires the account name and password of the MM8000 “internal user”. In most cases, the default account parameters, provided in the installation window, do not need to be changed. However, if during the previous MM8000 installation a different account was specified, then you need to specify the customised username and password.

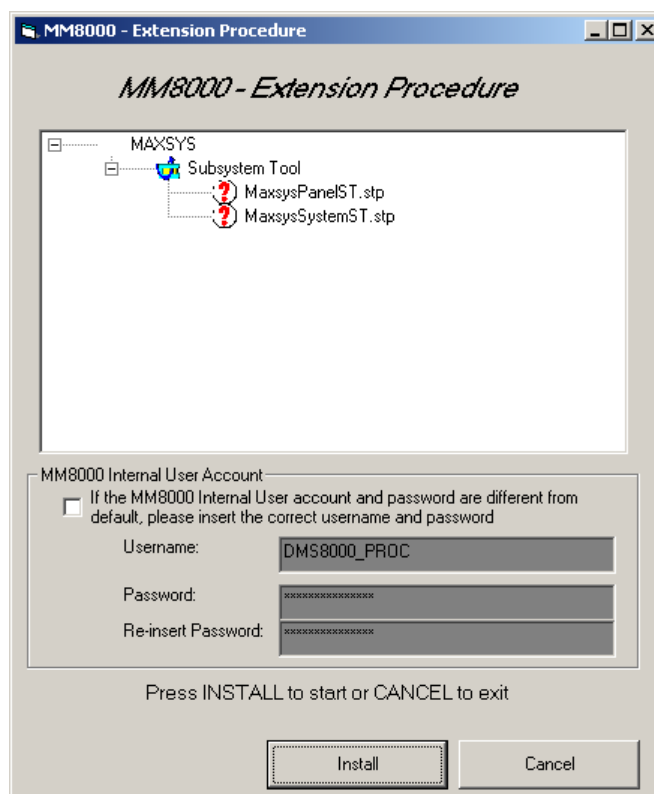


Fig. 3 Installing the MAXSYS Subsystem Tool

In few seconds, the tool is installed in Composer. The name of the new tool appears in the list (Fig. 4). At this point, click **EXIT** to quit.

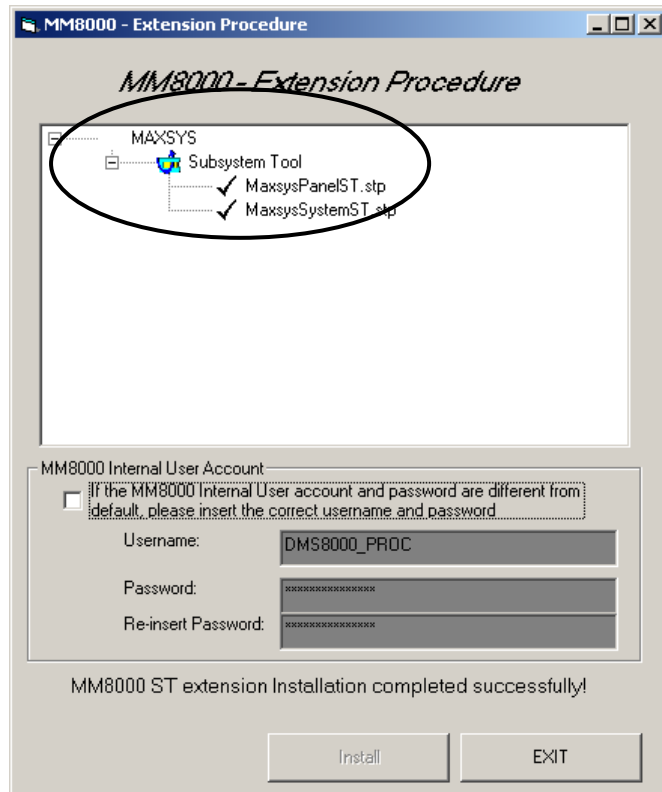


Fig. 4 Closing the tool installation

2.2.3.2 Installation on MM8000 MP4.15 and later

A specific application, the Add-on manager, is provided in MM8000 MP4.15 and later and allows installing and updating the add-on modules. The application supports the installation of add-ons developed for all MM8000 versions starting from MP3.20.

The following describes the installation procedure.

1. Start Add-on Manager.

From the Windows Start menu, select the following:

Start → DMS8000 → Tools → Add-on Manager

The Add-on Manager window appears (Fig. 5).

2. In the list of add-ons, select the name of the module that you wish to install

OR (if the name of the add-on is not in the list on the screen):

click the **Browse ...** button, locate the installation files of the add-on module and select the text file (**Extension Product Name.txt**) in the root folder (Fig. 6).

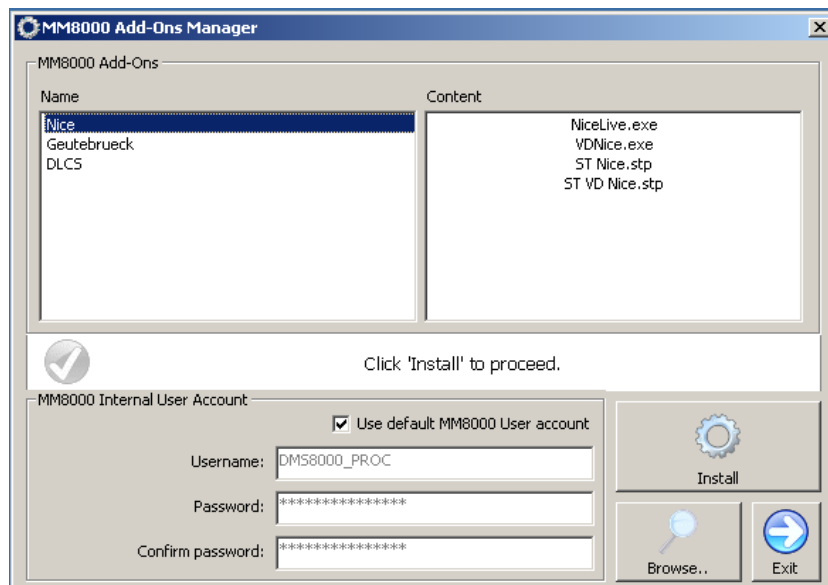


Fig. 5 Add-on Manager Window

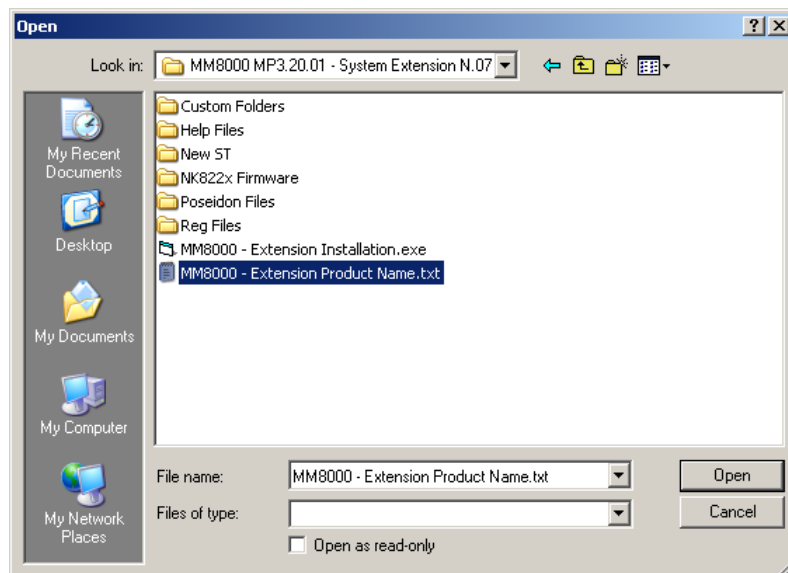


Fig. 6 Selecting the MM8000 Extension Product Name file

3. If your MM8000 installation includes a customized MM8000 internal account, then deselect the checkbox **Use default MM8000 User account** and specify the customized username and password.
4. Click **Install** (or **Update** if a previous version is detected).

2.2.3.3 Multiple add-on's installation

In general, it is possible to install multiple add-on packages and benefit of their combined functionalities. However, we recommend care in the firmware update (see next chapter).

2.2.4 MAXSYS add-on uninstall

The MAXSYS add-on module cannot be uninstalled.

2.3 Communication network

The MAXSYS is connected to the MM8000 system by means of the NK8000 network and namely via the NK8222, NK8223, or NK8225 units.

In order to communicate with the MAXSYS, the NK82xx units should however be equipped with a new firmware that is included in the installation package as an additional component (DLL) to be added to the standard firmware file set.

The software installation procedure provides to copy the firmware files (a compressed ZIP archive) in the **NK82xx – Firmware** folder of the MM8000. From there, the files can be downloaded to the NK82xx units using standard Composer commands. The required procedure is described here below.

2.3.1 NK82xx firmware download

The following are the download procedures for the NK82xx firmware supporting the MAXSYS communication protocol.

Note: It is assumed that the NK82xx are physically installed, powered on, and communicating over the network. For more information about the NK8000 installation, please see the document no. A6V10062425, DMS8000 Network, Fire and Intrusion Connectivity Configuration Guide, section 4.3. More advanced technical issues are also discussed in the document no. A6V10062437, NK8000 Installation, Configuration and Commissioning.

Also, you should have available the Composer project that includes the NK8000 network and all the NK82xx units.

1. Verifying the connection with NK82xx

The NK82xx download requires that the TCP/IP connection between the host PC and the NK82xx is working properly. In the Windows Command Prompt window, you can check easily this connection using the “Ping” command:

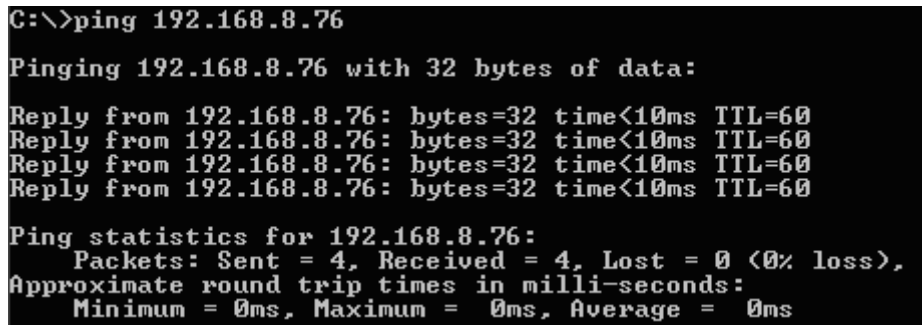
Ping n.n.n.n

where **n.n.n.n** is the IP address of the NK82xx unit, e.g. 168.123.8.76.

If the IP connection is good, the message text looks like the ones in Fig. 7, i.e.:

Reply from n.n.n.n: bytes=... time ... TTL=...

If the IP connection is not working for any reason, different messages may appear (Request timed out, Destination net unreachable, etc.) In these cases, verify the network settings and cabling and try again.



```
C:\>ping 192.168.8.76

Pinging 192.168.8.76 with 32 bytes of data:

Reply from 192.168.8.76: bytes=32 time<10ms TTL=60
Reply from 192.168.8.76: bytes=32 time<10ms TTL=60
Reply from 192.168.8.76: bytes=32 time<10ms TTL=60
Reply from 192.168.8.76: bytes=32 time<10ms TTL=60

Ping statistics for 192.168.8.76:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Fig. 7 Checking IP connection

- 2. Start Composer and open the project that includes the MAXSYS units.
- 3. Expand the **Channel collection** folder in:

Supervision System Settings → MM8000 System → Physical configuration → Station (or FEP) → Channel collection

4. Select the **NS8210 driver** node and then the **Download** tab (Fig. 8).

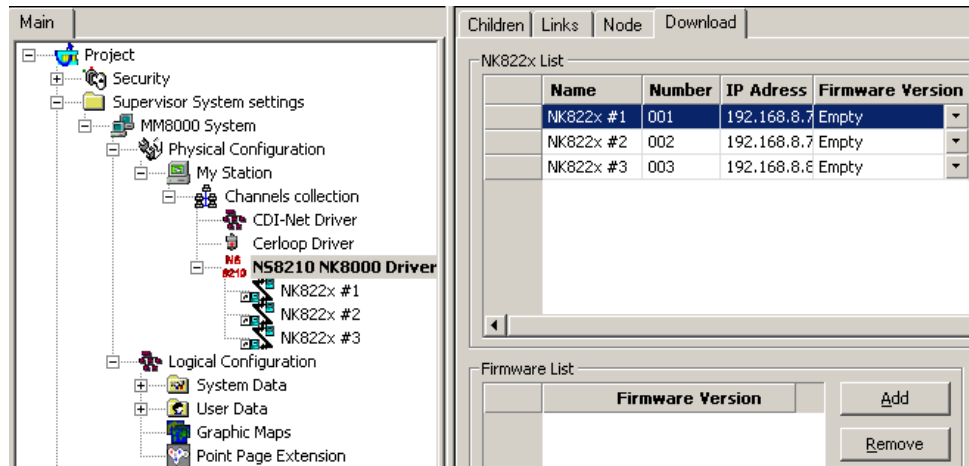


Fig. 8 Download tab

5. Select all the branches (NK82xx) in the list located in the upper part of the form.

Note: In order to select multiple branches, keep the CTRL key pressed while you make your selections.

See the following Fig. 9.

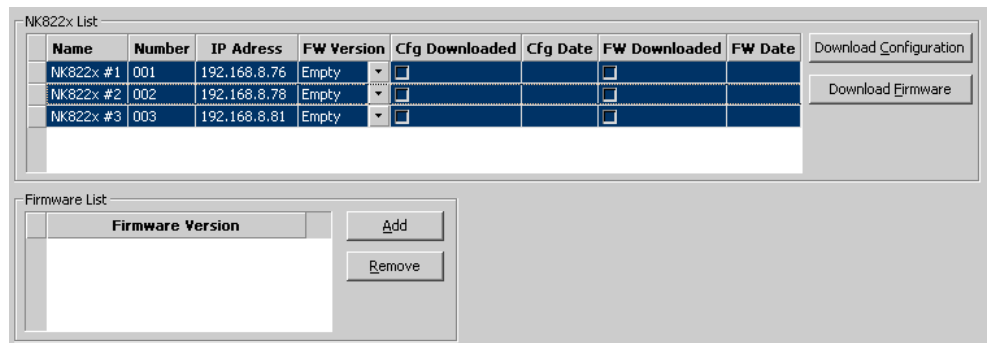


Fig. 9 Selecting the NK82xx

6. Add the new firmware version:

- Click **Add**, then browse and locate the additional firmware file in:

<MM8000 installation folder>NK82xx – Firmware

- Then, click the file:

NK82xx_MaxSys_x.xx-xx_02.zip

with x.xx-xx being the software version.

- And finally click **Open** (Fig. 10).

→ In a few moments, the new firmware shows in the **Firmware List** (Fig. 11).

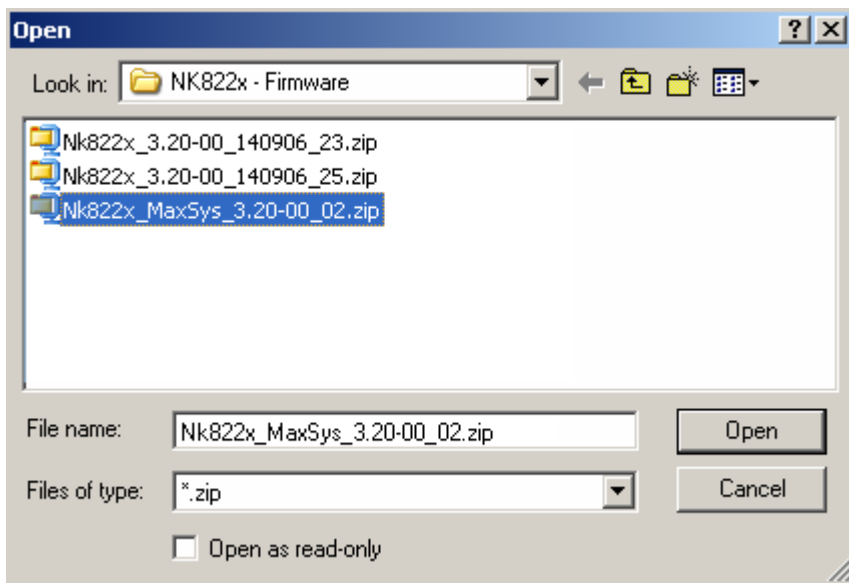


Fig. 10 Opening the new NK82xx firmware files

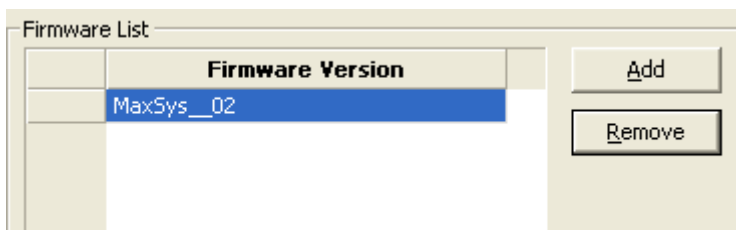


Fig. 11 New NK82xx firmware (MAXSYS add-on) in the Firmware List



Note that the “_02” suffix in the firmware name indicates the add-on index (02 for the MAXSYS).

7. Select the new firmware version in the Firmware List.
8. Click the button **Download Firmware**.
 - *The download procedure starts. The new firmware is downloaded to the NK82xx units via FTP (File Transfer Protocol) services over the network.*
9. Ensure that you have successfully completed all downloads:
Verify that the **FW Downloaded** checkboxes contain **X**'s.
10. That completes the NK82xx firmware download.

Note that the NK82xx configuration will also need to be downloaded after having configured the MAXSYS units in Composer (see pag.18).

Downloading multiple firmware



In case multiple add-on packages have been installed, then all the associated firmware files can be safely downloaded in sequence (each of them being a single additional DLL) as long as the base NK82xx version is the same (e.g. “...3.20...”). Please check the base firmware version in the firmware list (Fig. 10) before selecting the add-on file to download. Also, get informed about latest compatibility issues in the most recent NK8000 Release Notes.

3 Configuration

3.1 Configuration checklist

Verify that you have satisfied the items needed in the first checklist before proceeding to the configuration checklist that follows.

ITEMS NEEDED FOR CONFIGURATION

- The intrusion system architecture: number of control units (PC6010) and interfaces (PC6442)
- The encryption key for the communication security (=0 if no encryption is required).
- The local address (1 to 32) for each control unit.
Note: the address is automatically assigned by Composer sequentially. Therefore, the units should be inserted following the address sequence, from 1 to n.
- The metafile(s) generated by the Panel Reader tool (CSV file) OR the exact information on the control units internal configuration.
- The exact connection to the NK8000 unit (NK82xx).
- Plug-ins needed:
 - Plug-in #354101 (PC6442 interface)
 - Plug-in #354001 (PC6010 control unit)
 These are both installed during the installation procedure.

CONFIGURING A MAXSYS

- 1. Add the folder(s) required for identifying the location of the MAXSYS in the project structure tree. p. 14
- 2. Add the MAXSYS main node (PC6442 interface) to the new folder p. 14
- 3. Set the encryption key, if used p. 14
- 4. Add the MAXSYS control unit (Panel Application)..... p. 15
- 5a. Import the metafile p. 15
-- or --
- 5b. Configure the objects manually..... p. 17
- 6. Repeat steps 2 to 4 for all the MAXSYS units of the system
- 7. Link the MAXSYS to the communication network p. 17
- 8. Repeat steps above for all the MAXSYS systems in the project
- 9. Download the configuration p. 18


3.2 Configuration procedure

The following are the configuration procedures for the MAXSYS control unit:

Adding the folder for the MAXSYS system

1. Open the Composer project.
2. Create a folder for the control unit.

Adding the main MAXSYS node (PC6442 interface)

1. Select the new folder.
2. Select the MAXSYS icon  (see Fig. 12):
→ *The new node is added to the project structure.*

By default, the node will be named **PC6442 Maxsys Interface #1**. You can customise the text by clicking once on the name, typing a new name, and pressing **Enter**.

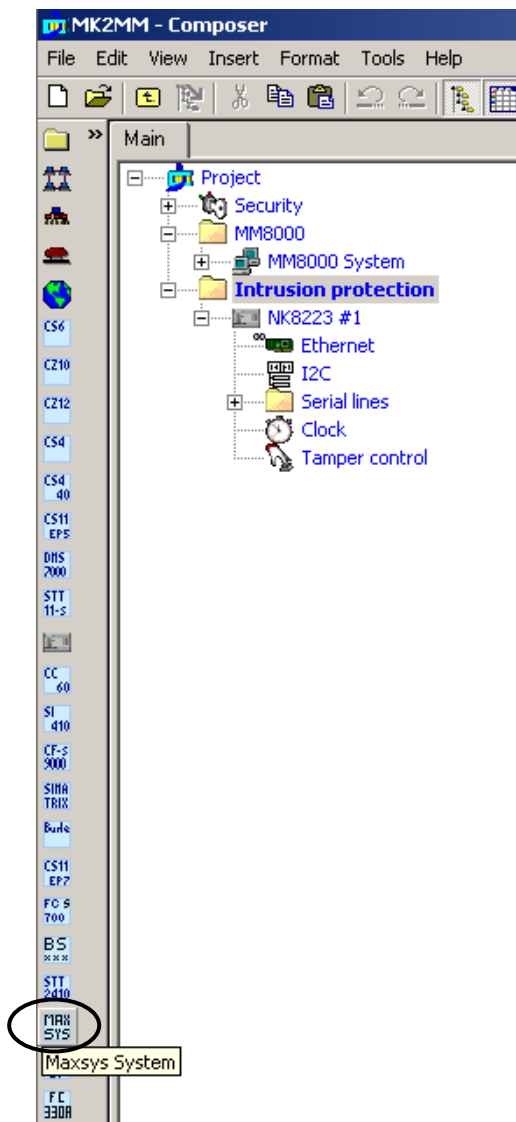


Fig. 12 Adding a MAXSYS subsystem

Setting the encryption key

1. Select the PC6442 Maxsys Interface node.

2. Set the **Private key** field.

→ This is an 8-character field that should match the hexadecimal value set in the PC6442 unit (Fig. 13).

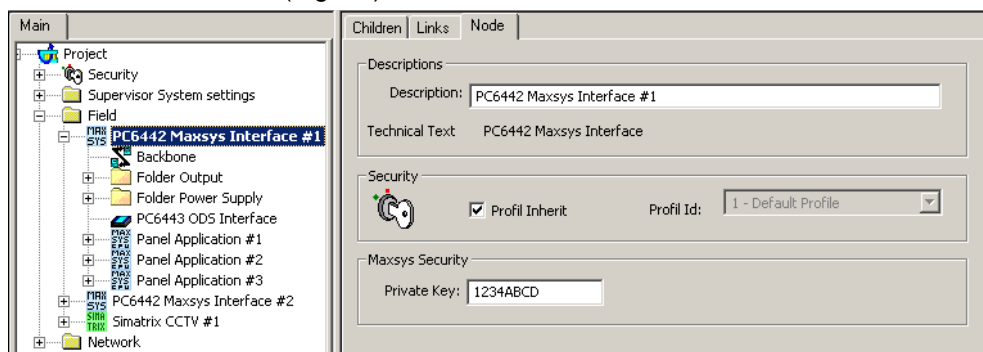


Fig. 13 Setting the MAXSYS encryption key

Adding the MAXSYS control unit nodes (Panel Application)

1. Select the PC6442 Maxsys Interface node.

2. Select the MAXSYS CPU icon  (see Fig. 14):

→ *The new node is added to the project structure.*

By default, the node will be named **Panel Application #1**. You can customise the text by clicking once on the name, typing a new name, and pressing **Enter**.

Note: The local address of the unit is automatically set to the next available number from 1 to 32. The units should be inserted following the address sequence, from 1 to n.

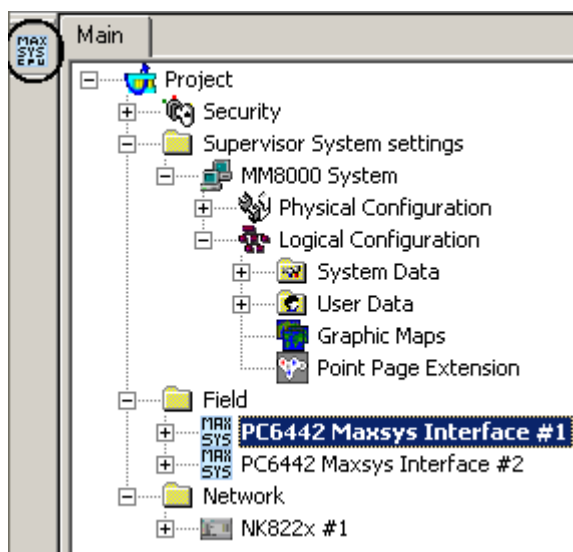


Fig. 14 Adding a MAXSYS subsystem (A)

Importing the Panel Reader configuration file

1. Select the Panel Application (control unit) node.

2. Select Tools→Import in the Composer menu (Fig. 15).

→ *After a confirmation request, the software presents a browsing window to search for the files to import.*

3. Using standard Windows file browser, do the following:

- Look for Panel Reader export files, selecting the extension CSV in the browsing window.
- In the file system, locate the CSV file.

- Select the file and click **Open** (Fig. 16).
 → In a few moments, the unit structure is imported.

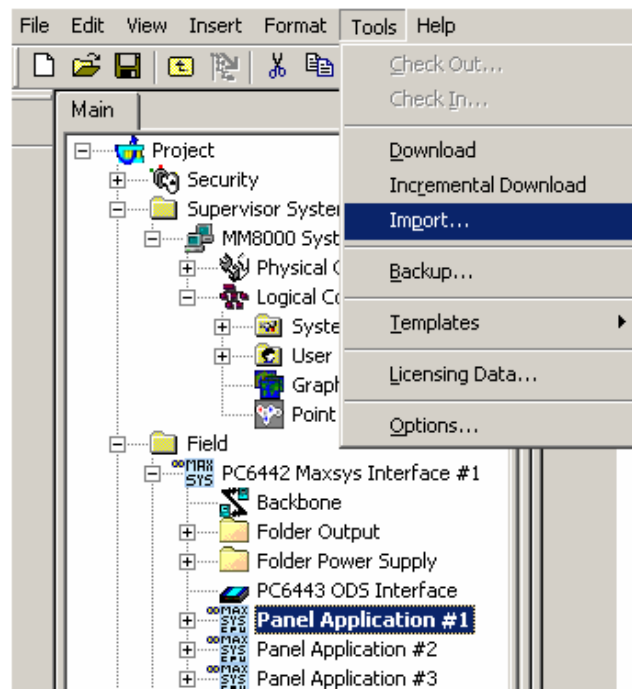


Fig. 15 Starting the import procedure



The CSV file is unique for the entire MAXSYS system, i.e. it includes all the panels (CPU nodes) for a given interface node. Nevertheless, the import procedure must be executed at panel level and the same CSV file selected for the set of associated panels.

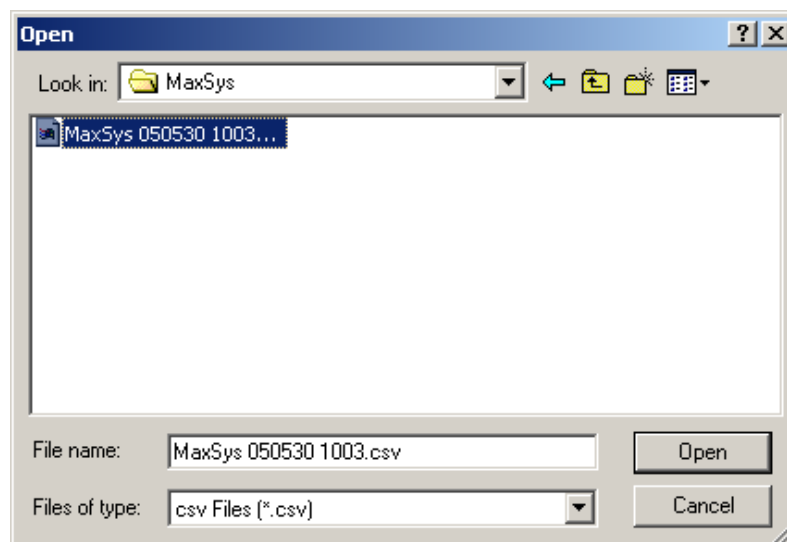


Fig. 16 Selecting the metafile



CSV files can be re-imported after a configuration change. Note the behaviour of the import procedure:

- New objects in CSV (not configured in Composer) are added to the configuration.
- Old objects in CSV (already configured in Composer) are updated.
- Removed objects in CSV (configured in Composer) are removed.

Manual configuration

If you are not able to import the configuration, you can configure the MAXSYS system by hand to reflect the actual control unit configurations.

The following list shows where different objects are located in the in the Composer tree:

- PC6442 interface
 - Physical tree (see below)
 - Logical tree (see below)
 - PC link (local service PC)
 - Primary lines
 - Infranet
 - Users (a single object collects the status messages of all local users)
- Physical tree:
 - PC6010 Main Board
 - Zones
 - Outputs: Bell, Auxiliary (AUX), Programmable (PGM)
 - Backbone (external bus)
 - Telephone line module (TLM)
 - Power Supply (Main units and Auxiliary unit)
 - Combus (internal bus)
 - PC6108A zone expander
 - PC6204 4-output module
 - PC6216 16-output module
 - PC6501 LCD keypad unit
 - PC6400 serial interface units
 - PC6820 2-door access control module
- Logical tree:
 - Areas
 - Linked zones
 - Groups
 - Linked Alarm and Seismic zones



Warning: manual configuration in Composer changes may be overwritten by subsequent import if the imported file does not include them too.

Linking the MAXSYS interface to the Communication network



1. Open NK82xx sub-folders

Expand the NK8000 network folders until you reach the node that represents the NK882x COM port that is physically connected to the MAXSYS.

2. Select the MAXSYS main node.

3. Drag and drop the MAXSYS node to the network COM port (see Fig. 17).

Note: Composer helps you recognise the valid link by displaying a shortcut Link

icon  instead of the circle No-link icon .

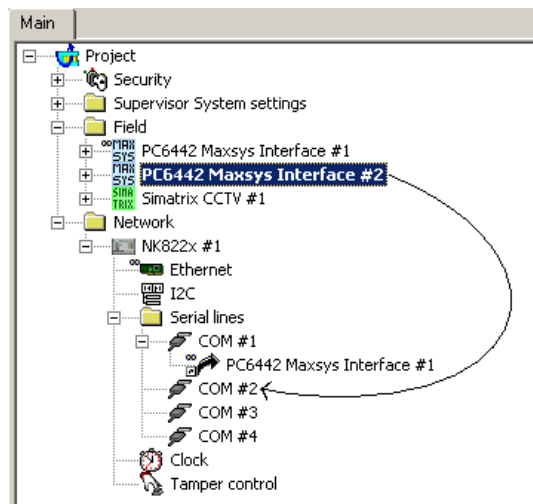


Fig. 17 Link MAXSYS to the NK8000 network

→ When the link is established, a new node appears on the structure tree, and its properties can be seen on the Link tab of both the connected nodes.

Downloading the MM8000 configuration

Before operating with the new MM8000 configuration, you need to download it. In Composer, the download command is available in the Tools menu. The preparation to the download is discussed in the document no. 006799, MM8000 Installation, Configuration and Commissioning.

Downloading the NK82xx configuration

After any modifications on the MAXSYS systems, a new configuration download is required for the NK82xx devices.



Warning: the NK82xx units handle the MAXSYS messages interpretation for MM8000. In order to do so, the NK82xx needs to be downloaded with the updated configuration of the management stations, even after a minor modification to the subsystem structures (e.g.: after having imported an updated metafile including new objects). Depending on the specific configuration change, failing to download the NK82xx units may affect the correct behaviour of the telegram interpretation and result in missing event signalling. In general, we recommend including an NK82xx download after any change in the configuration.

The download procedure can be started in two ways:

1. In the **Download** tab of the **NS8210 driver** node:
 - Select:
 - Supervision System Settings → MM8000 System → Physical configuration → Station (or FEP) → Channel collection → NS8210 driver** (Fig. 8)
 - in the list that shows up, select the NK82xx units
 - Note:** In order to select multiple branches, keep the CTRL key pressed while you make your selections.
 - click the button **Download Configuration**
 - ensure that you have successfully completed all downloads
 - Verify that the **Cfg Downloaded** checkboxes contain **X**'s (Fig. 9)
2. In the **NS822x** node (select all units one after the other):
 - Right click the node
 - In the menu, click **Node commands → Download file CNF**

4 Operations

MM8000 operations are described in the document no. 6798, MM8000 Operation Manual. Specifically, the possible events related to MAXSYS control units are listed in the table below.

Notes:

- When an alarm occurs, both Area and Zone objects generate an event message. Also, the MAXSYS control unit requires that the Area gets acknowledged before resetting the alarm on the Zone.
It order to simplify the operations, the MM8000 provides an automatic treatment on the Area object that does not necessitate any user action. This is conforming to the MAXSYS operations at panel level, which are also limited to the zone treatment.
- In some cases the control panel sends only the **tamper event** of the board broken but not the tamper event of the **main board combus**. (The control panel should send both the tamper events (combus + board)). In these conditions, if the tamper is ended, only a manual **status request command** from MM8000 will reset the board tamper event, since that event cannot be reset by protocol.
- In some cases the control panel sends only the **fault event** of the board fault but not the tamper event of the **main board combus**. (The control panel should send both fault events (combus + board)). In these conditions, if the fault is terminated, only a manual **status request command** from MM8000 will reset the board fault event, since that event cannot be reset by protocol.
- In some cases, after a reconnection of the NK8223, the control panel sends to MM8000 also some alarm detector events previously occurred and already reset (events no more physically active and no displayed on the control panel LCD). Moreover, if during the NK disconnection, some new events occur, at the reconnection, the control panel send the above-mentioned events with the same format of the new events.

Node	Alarms	Faults	Other events
PC6442 interface node	Tamper	Fault: - internal fault - RS232 fault	
Backbone		Fault: - internal fault - connection fault	Advisory
Power supply		Fault: - AC fault - battery fault	
PC6443 Interface	Tamper	Fault: - internal fault - RS232 fault	
Panel (Control Unit)		Fault: - connection fault	Anomaly: - restart - default Advisory: - test
Primary line		Fault: - line fault	
Infranet		Fault: : - line fault	
PC6010 Main board		Fault: - internal fault	
Zone	Severe alarm Tamper: - open/short line	Fault: - internal fault	Exclusion: - disabled - disconnected Advisory: - bypassed
Bell output		Fault: - internal fault	Advisory: - active - test
Output, TLM			Advisory: - active
Backbone		Fault: - connection fault	
Power supply		Fault: - AC fault - battery fault	
Combus	Tamper	Fault: - pwr supply fault - connection fault	
PC6108A zone expander	Tamper	Fault: - pwr supply fault - connection fault	
PC6501 LCD keypad	Tamper	Fault: - pwr supply fault - connection fault	Advisory: - authorised access
PC6400 serial interface	Tamper	Fault: - pwr supply fault - connection fault	
PC6204 output module	Tamper	Fault: - pwr supply fault - connection fault	Advisory: - propagat.active
PC6216 output module	Tamper	Fault: - pwr supply fault - connection fault	
PC6820 Access control module	Tamper	Fault: - internal fault	Advisory
Area		Fault: - fire fault - automatic off	Exclusion: - off duty - partially off Anomaly: - not ready Advisory: - activation
User	Sev.alarm: - acc.ctrl alarm - duress alarm		Advisory: - logged in

Note: all objects can also be affected by the Maintenance event according to the MM8000 function that allows setting any part of the system tree in maintenance mode and divert the associated events into a separate list.

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