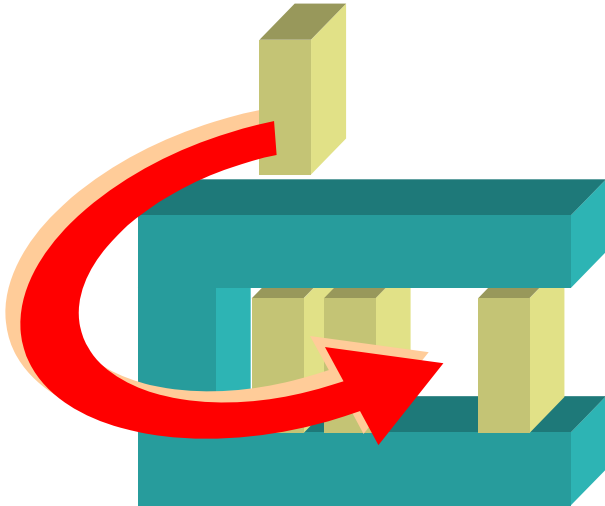


# SIEMENS



**MM8000 MP3.20**

**MM8000 MP4.xx**

**CP100 Gas Control Unit**

**Add-on module**

**Installation, Configuration,  
and Operations guide**

**Building Technologies**

Fire safety & Security Products

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<b>About this document.....</b>	<b>1</b>
<b>1 Introduction .....</b>	<b>3</b>
1.1 Version supported .....	3
1.2 What has been changed in MP4.20 .....	3
<b>2 Installation .....</b>	<b>4</b>
2.1 Distribution package .....	4
2.1.1 Installation checklist .....	4
2.2 Software installation .....	6
2.2.1 Requirements .....	6
2.2.2 Software License.....	6
2.2.3 CP100 add-on installation .....	6
2.2.3.1 Installation on MM8000 MP3.20 and MP4.10 .....	7
2.2.3.2 Installation on MM8000 MP4.15 and later .....	8
2.2.3.3 Multiple add-on's installation .....	9
2.2.4 CP100 add-on uninstall.....	9
2.3 Communication network .....	10
2.3.1 NK82xx firmware download .....	10
<b>3 Configuration.....</b>	<b>13</b>
3.1 Configuration checklist.....	13
3.2 Configuration procedure .....	14
<b>4 Operations .....</b>	<b>18</b>



# About this document

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## Purpose of this document

This manual is a guide to the installation, configuration, and operations for the MM8000 Management Stations that includes the CP100 gas control units. It presents the MM8000 Add-on module for the CP100 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
A6V10238690_a_en	06.2009	Corresponds to version MP4.20 of the MM8000 Software (new Add-on Manager for software installation).
008750_b_en	09.2006	Corresponds to version MP3.20 of the MM8000 Software
008750_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



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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.
- 

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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 CP100 is a gas detection unit supporting up to 3 modules, handling 8 gas sensors each. Detection lines, internal status and power supply are all monitored and the unit provides relays output for both alarm and fault conditions.

The CP100 control unit can communicate over a serial line to the MM8000 system via NK82xx units. The communication protocol is CDDL/CDSF and requires a specific NK82xx firmware.

## 1.1 Version supported

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MM8000 with CP100 extensions can support the CP100 version **Cpa402c**.

## 1.2 What has been changed in MP4.20

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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

---

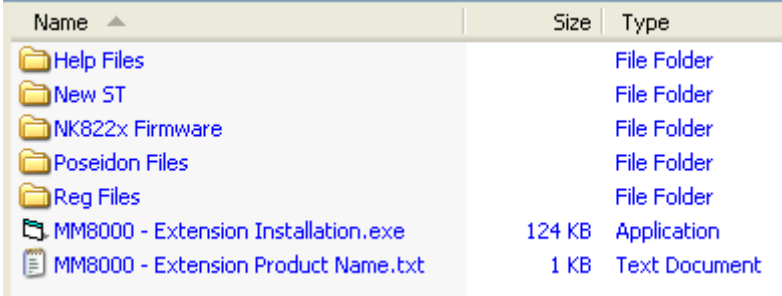
The M8000 software for the CP100 support is distributed as an add-on package, to be installed on the stations including the Composer tool (client-only and FEP stations are therefore excluded) after the standard MM8000 Setup.

The package is named **MM8000 MPx.xx - System Extension N.04 (CP100 Vy.yy)** and is made up by an installation kit of a few files.

#### Installation kit

The installation kit includes (Fig. 1):

- The new **Help Files**, describing the CP100 configuration procedures.
- The new Composer Subsystem Tool (**New ST**) for the CP100 models.
- The firmware for the NK82xx units (**NK822x Firmware**), i.e. the DLL module supporting the CP100 protocol.
- The **Poseidon Files**, including the definitions of the CP100 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; e.g.: **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 - System Extension N.04 (CP100 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 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 CP100 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 CP100 does not add any special requirements to the standard MM8000 software. 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.

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

This CP100 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

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An additional license is required to run the CP100 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 CP100 control units.
- MM8000 core, no. of subsystems.  
This license should include the number of CP100 control units.
- MM8000 core, no. of devices.  
This license should include the number of CP100 physical objects (detectors, auxiliary and control outputs).
- CP100 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 CP100 support.

### 2.2.3 CP100 add-on installation

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



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

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### 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** 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.

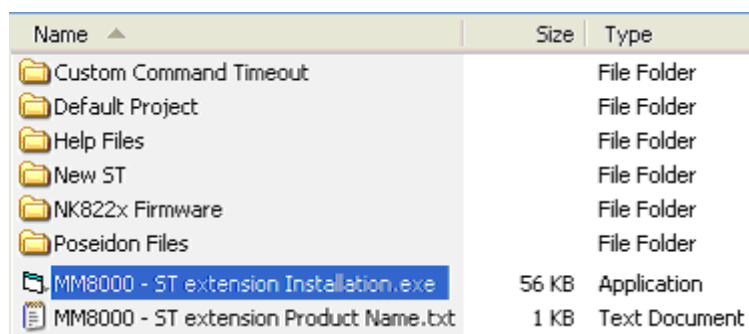


Fig. 2 Starting the add-on installation

#### 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 CP100 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.

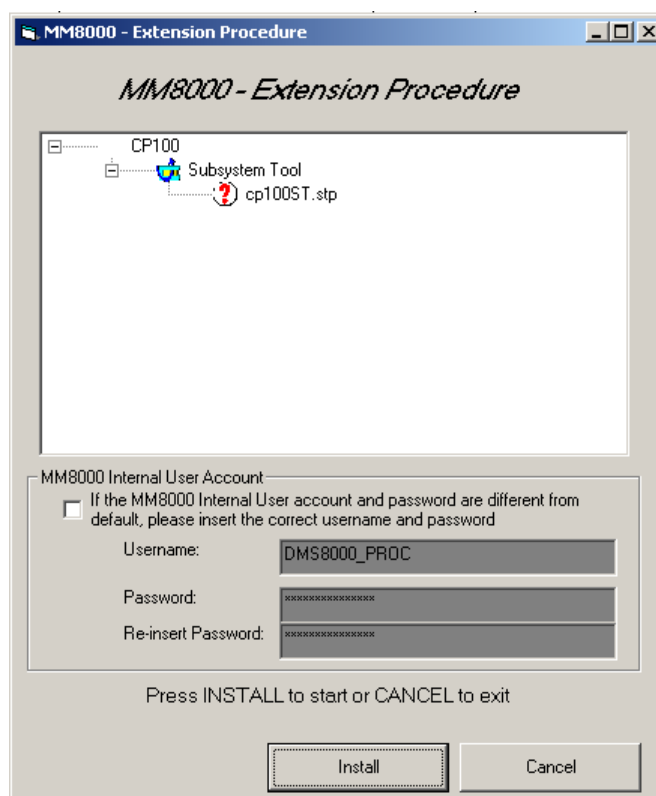


Fig. 3 Installing the CP100 Subsystem Tool

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.

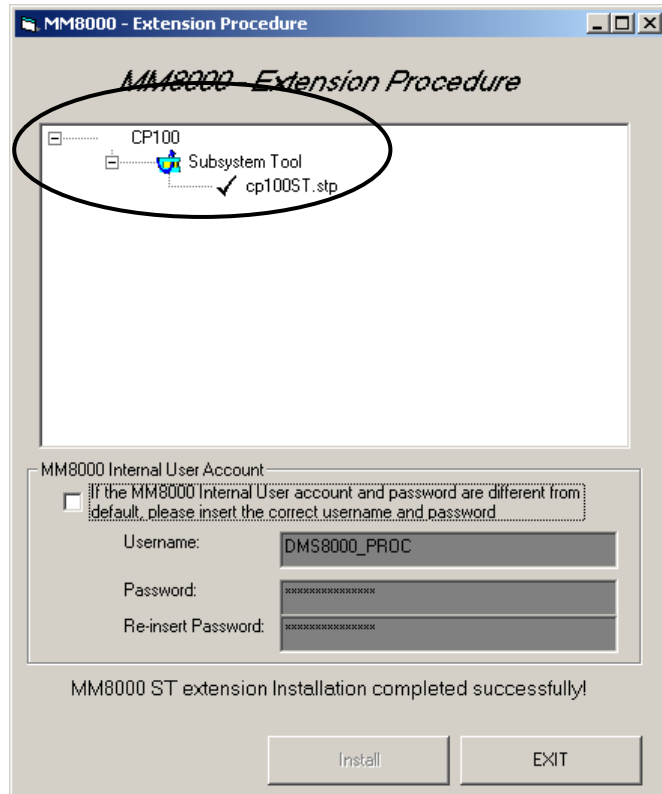


Fig. 4 Closing the tool installation

### 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).

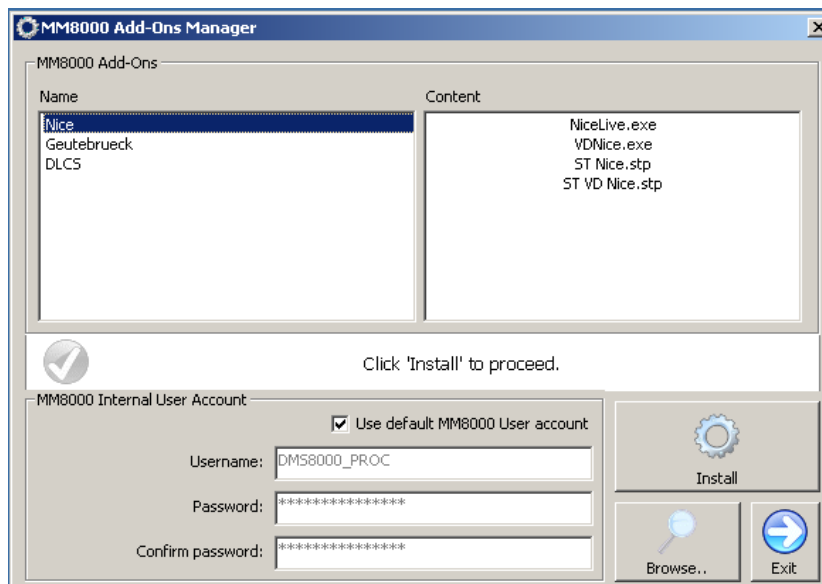


Fig. 5 Add-on Manager Window

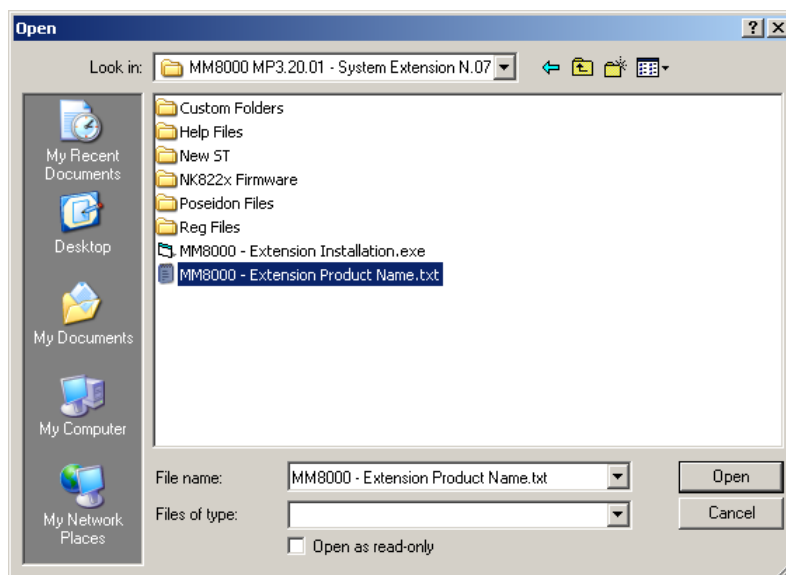


Fig. 6 Selecting the MM8000 Extension Product Name file

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 CP100 add-on uninstall

The CP100 add-on module cannot be uninstalled.

## 2.3 Communication network

The CP100 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 CP100, 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 CP100 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:

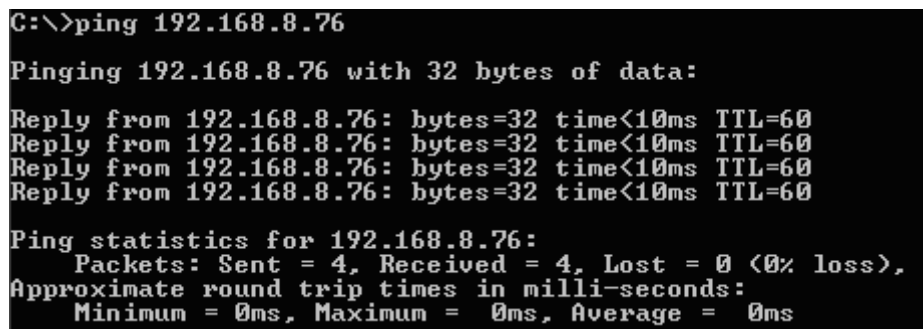
**Ping n.n.n.n**

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 CP100 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).

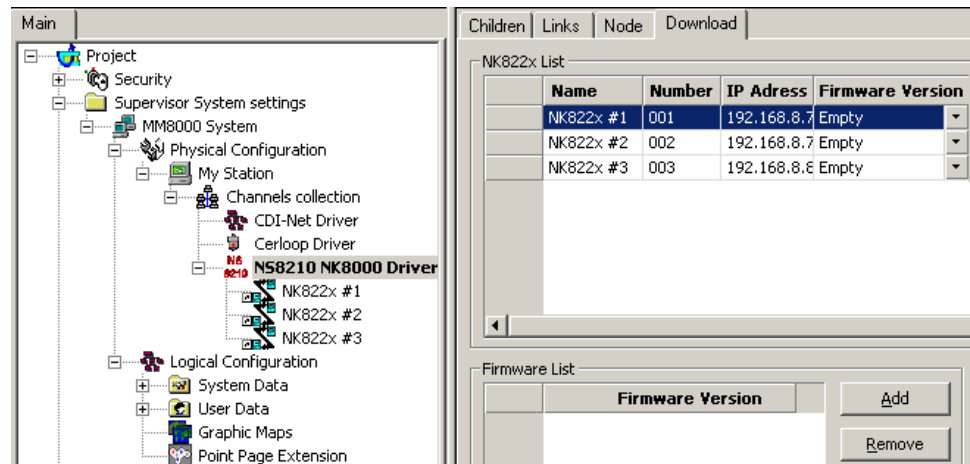


Fig. 8 Download tab

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.

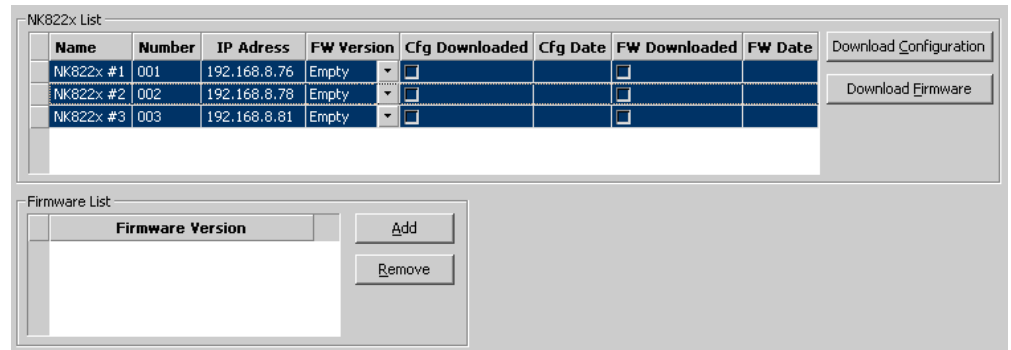


Fig. 9 Selecting the NK82xx

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\_CP100\_x.xx-xx\_04.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).

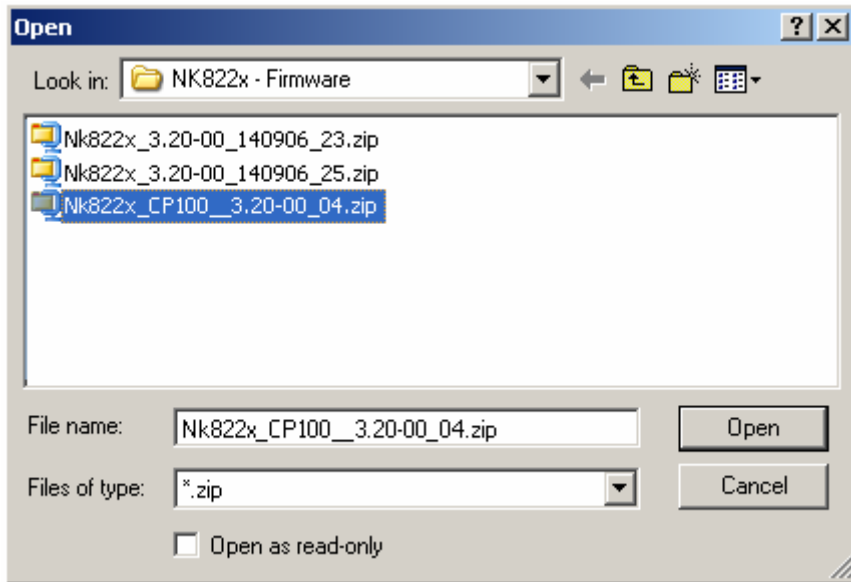


Fig. 10 Opening the new NK822xx firmware files

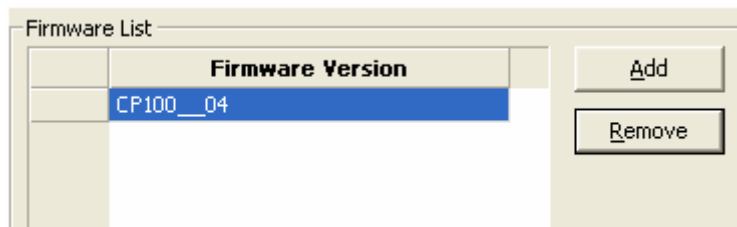


Fig. 11 New NK822xx firmware in the Firmware List



Note that the “\_04” suffix in the firmware name indicates the add-on index (04 for the CP100).

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 NK822xx units via FTP (File Transfer Protocol) services over the network.*
9. Ensure that you have successfully completed all downloads:  
 Verify that the **FW Downloaded** check boxes contain **X**'s.
10. That completes the NK822xx firmware download.

Note that the NK822xx configuration will also need to be downloaded after having configured the CP100 units in Composer (see pag.17).

**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 NK822xx version is the same (e.g. “...3.20...”). Please check version and date in the firmware list (Fig. 11) before selecting the 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 number of CP100 systems
- The address mode (collective or individual) for each unit.
- Exact information on the CP100 internal configuration (lines, sensors, outputs, etc.)
- The exact connection to the NK8000 unit (NK82xx).
- Plug-ins needed:
  - Plug-in #353201
 This is installed during the installation procedure.

#### CONFIGURING A CP100

- 1. Add the folder(s) required for identifying the location of the CP100 in the project structure tree. .... p. 14
- 2. Add the CP100 control unit node to the new folder ..... p. 14
- 3. Set Collective or Individual addressing mode ..... p. 14
- 4. Configure the CP100 objects ..... p. 15
- 5. Link the CP100 to the communication network ..... p. 16
- 6. Repeat steps above for all the CP100 units in the project
- 7. Download the configuration ..... p. 17


## 3.2 Configuration procedure

The following are the configuration procedures for the CP100 control unit:

### Adding the folder for the CP100 system

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

### Adding the CP100 node

1. Select the new folder.
2. Select the CP100 icon .
  - *The new node is added to the project structure.*

By default, the node will be named **CP100 #nn**. You can customise the text by clicking once on the name, typing a new name, and pressing **Enter**.

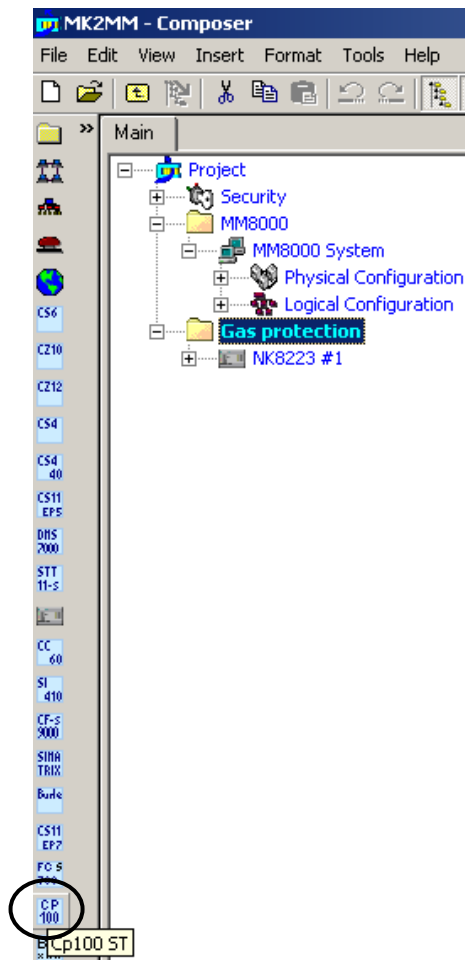


Fig. 12 Adding a CP100 subsystem

### Setting the CP100 addressing mode

1. Select the CP100 node.
2. Click the Node tab (see Fig. 13).
  - *The Node form page shows.*
3. In the Node tab form, you can find:
  - **Description** text: the node name you also have on the project structure tree.
  - **Subtype: Collective or Individual**, note that you can change this setting as long as you do not have configured any line.

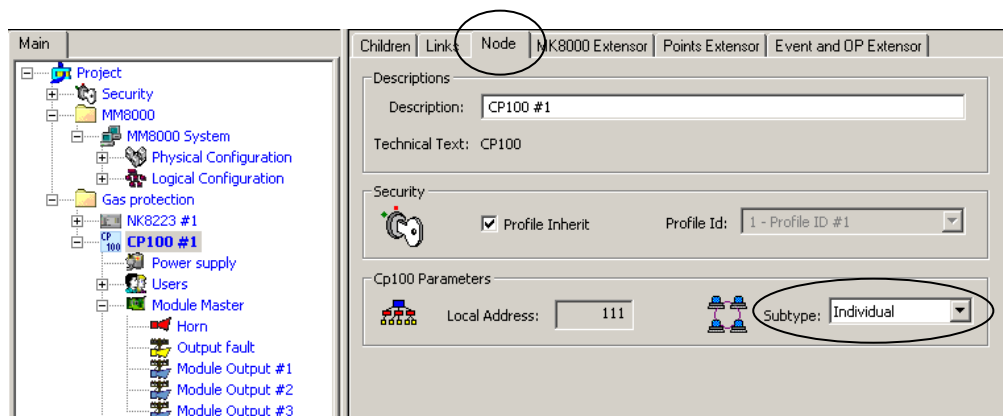


Fig. 13 Setting CP100 mode (subtype)

### Detailed unit configuration

You now have to define the CP100 internal structure to reflect the actual control unit configuration. By default, the CP100 structure includes the following objects (see also Fig. 13):

- Power Supply
- Users folder
  - User 1
  - User 2
  - User 3
- 1<sup>st</sup> Module (Master)
  - Horn
  - Output 1
  - Output 2
  - Output 3

More optional objects can be added. The following list shows where these objects are located in the Composer tree:

- 1<sup>st</sup> Module (Master)
  - Relay board (including 16 relay outputs)
  - Gas Sensor (up to 8 sensors)
- Slave Module 2 (including the same default and optional objects as the master module)
- Slave Module 3 (including the same default and optional objects as the master module)



When adding multiple objects, e.g. the gas sensors, you can profit of the specific Composer function that allows inserting a series of objects in one shot. Just press the Shift key and click the object icon (or select the corresponding Insert menu); in the form that appears, enter the number of object to insert and then confirm.

### Configuration procedure

1. Open Select the CP100 node and open the sub-tree.
2. Select the **Module Master** node
  - *The Composer toolbar, on the left hand side of the screen, is populated with the icons associated to the objects you can to add the selected sub-folder.*

3. Move the mouse on the icons and, using the tooltip text, locate the object you want to add. See Fig. 14.
4. Click the icon.  
→ *The selected object is added to the tree.*
5. If more modules are to be configured, select the main CP100 node, add one or two additional modules (Fig. 15), and then repeat steps 2 to 4.

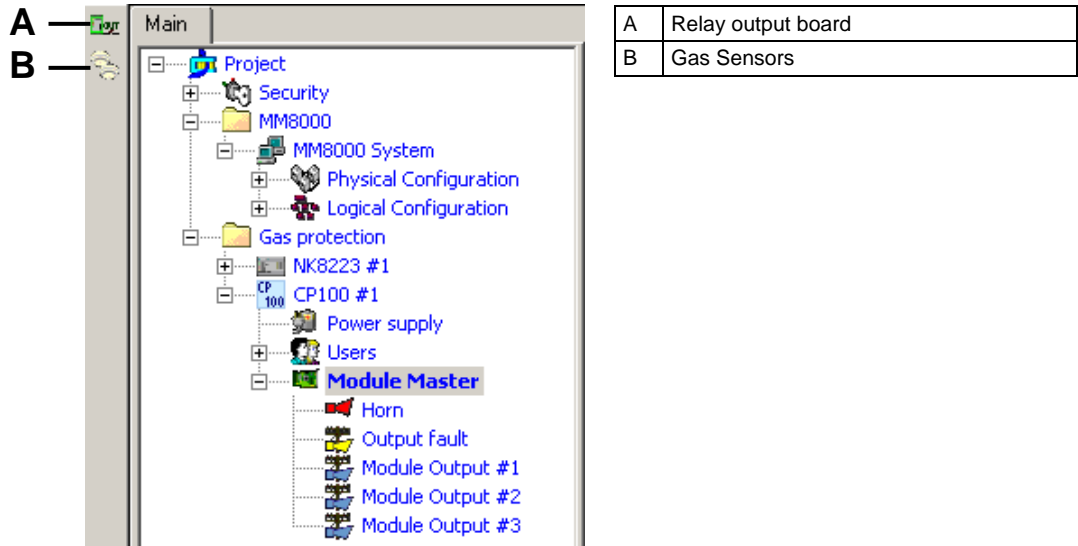


Fig. 14 Adding objects to a module

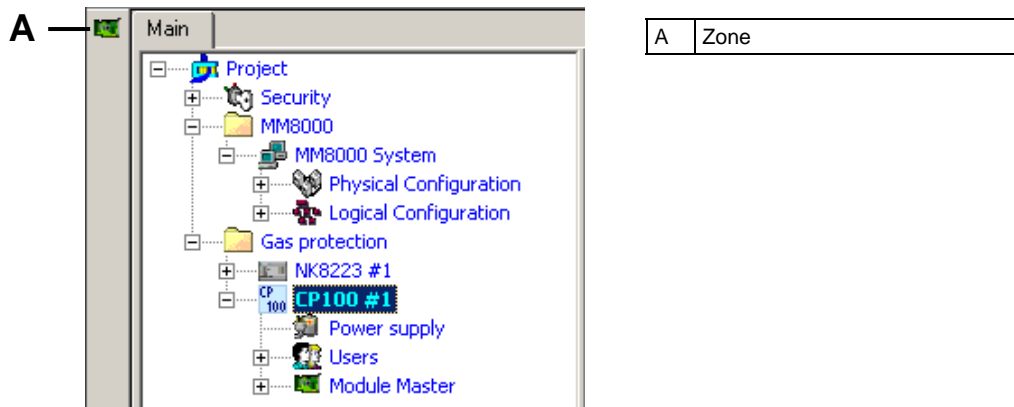




Fig. 15 Adding an optional module

**Linking the CP100 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 CP100.
2. Select the CP100 node.
3. Drag and drop the CP100 node to the network COM port (see Fig. 16).  
**Note:** Composer helps you recognise the valid link by displaying a shortcut Link icon  instead of the circle No-link icon .

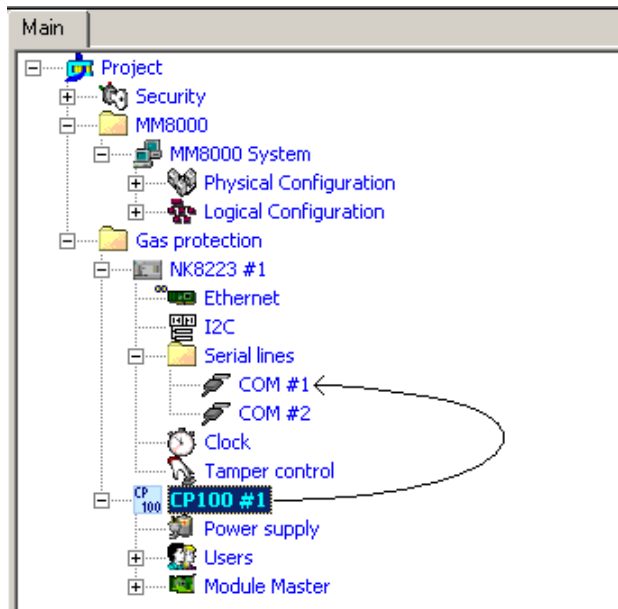


Fig. 16 Link CP100 to the NK8000 network

→ 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.

### Download 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 CP100 units, a new configuration download is required for the NK82xx devices.



Warning: the NK82xx units handle the CP100 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:

- In the **Download** tab of the **NS8210 driver** node:
  - Select:
    - Supervision System Settings → MM8000 System → Physical configuration → Station (or FEP) → Channel collection → NK8210 driver**
    - see Fig. 8 above
  - 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  
see Fig. 9 above

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 CP100 control units are listed in the table below.

Node	Alarms	Faults	Other events
CP100 unit	Alarm (Threshold 1) Severe alarm (Threshold 2) Severe alarm (Threshold 3)	Fault Not reachable	
Power supply		Fault	
Users			Advisory (Logged in)
Horn		Fault	
Line		Fault	
Gas detector	Alarm (Threshold 1) Severe alarm (Threshold 2) Severe alarm (Threshold 3)	Fault	Exclusion (Disconnected) Advisory (Test)

**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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