

## Product Datasheet

### NK8231 CEI interface for a single subsystem

NK8000  
MP4.81-02

The NK8231 CEI interface for a single subsystem is used to connect a local or distributed intrusion detection system to MM2000 Management Stations. It provides a first level of centralisation, and acts as a secure communication partner for the NS8210 Network Driver of the FEP station for MM2000.

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**Allows the connection of a single Siemens or 3<sup>rd</sup> party intrusion detection subsystem to NK8000 networks**

**Conversion of native subsystem application protocols to CEI 79-6**

**Best suited for distributed systems or geographical networks where a single subsystem has to be connected to a remote management system (such as bank applications: centralisation of security systems of branches)**

**Dial-up system available for MM2000 systems as backup connection**

**USB port or SD card supporting memory expansion for message logging**

**Based on the LAN standards TCP/IP and Ethernet**

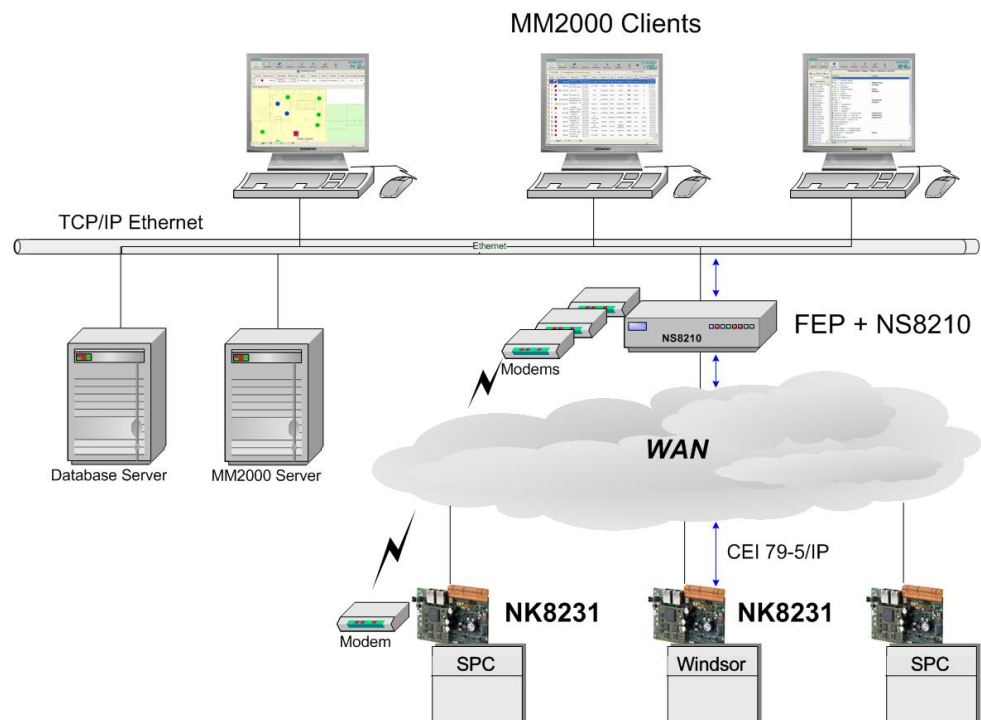
## Benefits

The NK8231 is based on the NK823x hardware compliant with RoHS Regulations. The NK8231 is an economical solution for the integration of single intrusion detection subsystems into the MM2000 Management Stations. It is best suited for bank applications where security systems of multiple branches need to be centralised.

## Connectivity

The following NK8231 connectivity options are available:

- Connection to a single host (MM2000 via FEP station<sup>1</sup>)



Connectivity example for a distributed system

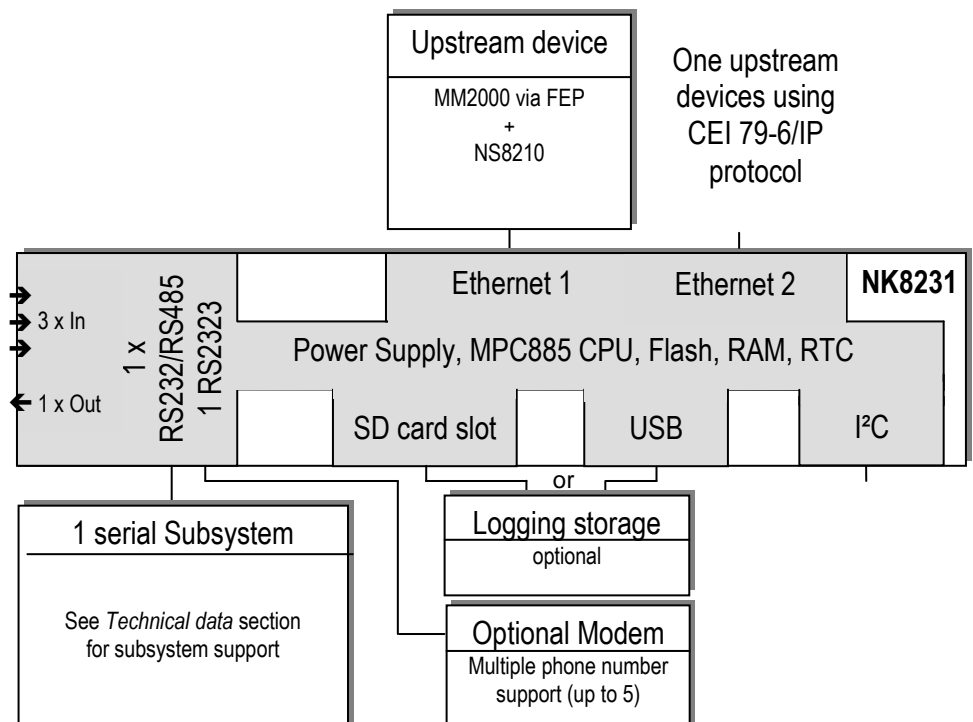
### Upstream connectivity:

- Via CEI 79-5/IP on Ethernet and/or PSTN
  - Single host only
  - Encryption (option)
  - Dial-up connectivity via modem for wide area extension systems
  - FEP station equipped with NS8210 Network driver

### Downstream connectivity:

- 1 serial connection supporting an intrusion detection system

<sup>1</sup> MM2000 is a Management Station product that is only available in the Italian market.



The NK8231 employs an MPC885 PowerPC CPU and is composed of:

- Base board with power supply, CPU module, and basic configuration of interfaces

The Base board is equipped with:

- Power supply
- 2 serial interfaces (2 RS232 or 1 RS485 and 1 RS232)
- Dual Ethernet 10/100Base-T interface (*Ethernet 2 not currently used*)
- Firewall functionality
- MPC885 PowerPC CPU module with:
  - 64MB RAM
  - 32MB Flash EPROM disk
  - Real Time Clock (RTC)
  - LINUX Operating System
- I<sup>2</sup>C bus (*not currently used*)
- Diagnostic LEDs
- 3 digital inputs; 1 relay output (*Not yet supported by MM2000*)
- USB port supporting Echelon U10 USB Network Interface - TP/FT-10 Channel for CS6 Guarto integration or mass storage devices for logging of selectable data flow (upstream and/or downstream)
  - USB port file system:** FAT32; 2-64 GB
- SD card slot supporting Secure Digital (SD) memory cards for logging of selectable data flow (upstream and/or downstream)
  - SD card file system:** FAT 32; 2-32 GB
  - 16 GB SD card is included

## Configuration

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**Hardware configurations** The NK8231 is currently available in one hardware configuration:

**NK8231.2**

- 1 Ethernet line for remote host(s)
  - 2 serial lines for a single subsystem / modem
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### Parameterisation

The NK8000 configuration is part of the Composer tool environment. To perform the SW-configuration for NK8231, a WW8000 Composer license is required.

→ See the *WW8000 Composer Datasheet* (STEP #A6V10062403) for licensing details. To learn how to obtain this document, see the *DMS8000 Documentation Resource Information and Glossary Guide* (STEP #A6V10089056).

The NK82xx supports two download modes for the configuration data transfer from the configuration station:

- Standard download mode based on FTP protocol in active mode (default) or passive mode or
- Secure download mode supporting authentication and encryption

### Mounting solutions for NK8231

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If mounted on the NKA8011-A1 mounting plate, the NK8231 can be installed in a control unit housing using card holders.



NKA8011-A1 mounting plate for NK8231

## Connectivity NK8231 CEI interface

<b>Management Systems</b>	Ethernet	– 1 remote management station: MM2000 via FEP station (using CEI 79-5 / 79-6 protocol supporting encryption and switched lines)
<b>Subsystems</b>	Max. 1 subsystem	– 1 intrusion detection subsystem

## Technical data NK8231 CEI interface

<b>Lines to remote host</b>	Ethernet IEEE 802.3	10/100 Mbit/sec
	<ul style="list-style-type: none"> <li>– Transport protocol: CEI 79-5 type A and type B <ul style="list-style-type: none"> <li>– Host (<i>single host only</i>): <ul style="list-style-type: none"> <li>– FEP station equipped with NS8210 Network Driver (supporting up to 500 NK823x)</li> <li>– FEAL 64-bit encryption</li> <li>– Support of switched lines (type A)</li> </ul> </li> </ul> </li> </ul>	
<b>Lines to subsystems</b>	1 RS232/RS485 line, protocol and baud rate options configured by NK8000 configuration tool (Composer):	
	<ul style="list-style-type: none"> <li>– Windsor proprietary protocol: Windsor</li> <li>– UDP/EDP protocol: SPC</li> <li>– USB port with external Echelon U10 USB Network Interface - TP/FT-10 Channel: CS6 Quarto</li> </ul>	RS232: 2400 baud RS232: 115200 baud
<b>Ethernet data traffic</b>	Very low network load:	
	<ul style="list-style-type: none"> <li>– Keep-alive message: 1 empty TCP/IP packet</li> <li>– Periodic authentication: (CEI 79-5 only) exchange of three packets with max. 30 bytes</li> <li>– Single alarm event: from 20 to 60 bytes</li> </ul>	Configurable, default every 30 s Configurable, default 10 min.
<b>Firewall</b>	Preconfigured firewall configurations can be enabled/disabled	Stand-alone firewall configuration only
<b>Cables</b>	RS232 lines: two unshielded twisted pairs	Cat.3 UTP, max. 15 m
<b>Power supply requirements</b>	<ul style="list-style-type: none"> <li>– Input voltage (DC power supply to NK8231 board)</li> <li>– Power (NK8231 only)</li> </ul>	10-33 Vdc 4.3 W at 12V or 4.8 W at 24V
<b>Operating conditions</b>	<ul style="list-style-type: none"> <li>– Temperature range</li> <li>– Humidity</li> </ul>	0 to 50 °C 10 to 95 % non-condensing
<b>Dimensions</b>	– NK8231 board	W x H x D [mm] 160 x 100 x 35 (Euro-size PCB)
<b>Weight</b>	– NK8231 board	0.226 kg
<b>Local embedded Input</b>	3 digital inputs	<b>Note:</b> Not yet supported by MM2000
<b>Local embedded Output</b>	1 relay output	<b>Note:</b> Not yet supported by MM2000
<b>Regulatory Approvals (CE, FCC conformity)</b>	EN 50581 EN 61000-6-3 EN 50130-4 FCC Part 15 Class B	RoHS EMC emission EMC immunity EMC emission

## Disposal

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This device includes electrical and electronic components and must not be disposed of as domestic waste.

**Current local legislation must be observed.**

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## Related Products

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<b>NK8232</b>	Ethernet Port for a single subsystem	(replacement for NK8222)
<b>NK8235</b>	Ethernet Port	(replacement for NK8223, NK8225)
<b>NK8237</b>	Modbus Gateway for Sinteso and Cerberus PRO fire detection systems	
<b>NS8210</b>	Network Driver (on FEP station for MM2000)	
<b>MM2000</b>	Management Station	
<b>WW8000</b>	Composer	

## Details for ordering

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S54461-C5-A1	NK8231.2	CEI Interface	1 Ethernet line, 2 serial lines
S54461-B4-A1	NKA8011-A	Mounting plate for NK823x	

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## Configuration tools

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WW8000 Composer and all necessary NK8000 configuration tools are included in the DMS8000 MP4.81 product DVD.

## Sales and Technical documentation

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See the *DMS8000 Documentation Resource Information and Glossary Guide* (doc.no.A6V10089056) for a complete list of all DMS8000 reference documents available.

## Export restrictions

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Cryptographic algorithms      Cryptographic export control regulations currently prohibit shipping and installing the NK8231 in the following countries: **Cuba, Iran, North Korea, Sudan, and Syria.**