



Product Datasheet

NK8231 CEI interface for a single subsystem

NK8000
MP4.81-01

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.

Allows the connection of a single Siemens or 3rd 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

Web server interface for monitoring and diagnostic purposes

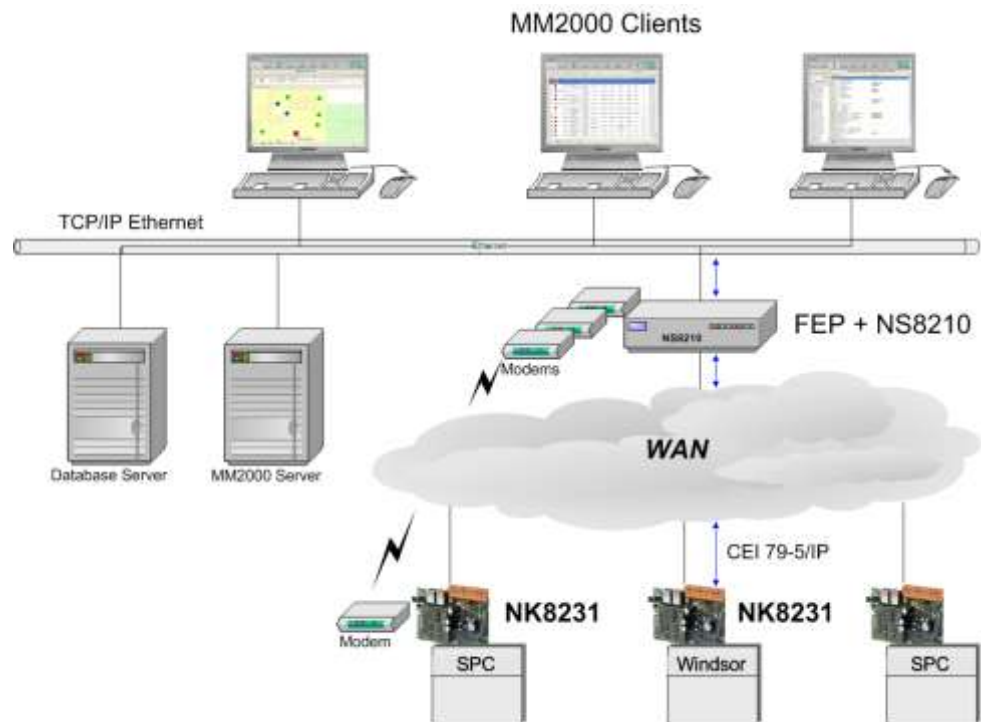
Benefits

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 station¹)



Connectivity example for a distributed system

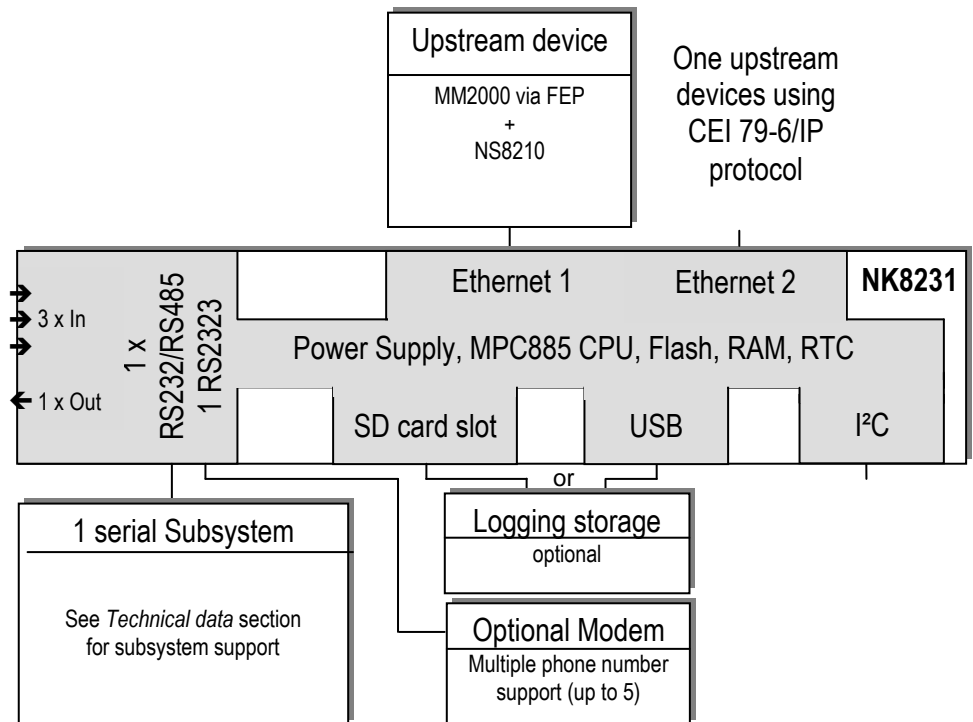
Upstream connectivity:

- 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

¹ 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
- I²C 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

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

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

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

Technical data NK8231 CEI interface

Lines to remote host	Ethernet IEEE 802.3	10/100 Mbit/sec
	<ul style="list-style-type: none"> – Transport protocol: CEI 79-5 type A and type B <ul style="list-style-type: none"> – Host (<i>single host only</i>): <ul style="list-style-type: none"> – FEP station equipped with NS8210 Network Driver (supporting up to 500 NK823x) – FEAL 64-bit encryption – Support of switched lines (type A) 	
Web server browser compatibility	<ul style="list-style-type: none"> – Microsoft Edge – Internet Explorer V9 and higher – Mozilla Firefox 28 and higher – Google Chrome 34 and higher 	
Lines to subsystems	1 RS232/RS485 line, protocol and baud rate options configured by NK8000 configuration tool (Composer): <ul style="list-style-type: none"> – Windsor proprietary protocol: Windsor RS232: 2400 baud – UDP/EDP protocol: SPC RS232: 115200 baud – USB port with external Echelon U10 USB Network Interface - TP/FT-10 Channel: CS6 Guarto 	
Ethernet data traffic	Very low network load: <ul style="list-style-type: none"> – Keep-alive message: 1 empty TCP/IP packet – Periodic authentication: (CEI 79-5 only) exchange of three packets with max. 30 bytes – Single alarm event: from 20 to 60 bytes 	Configurable, default every 30 s Configurable, default 10 min.
Logging	Upstream and downstream communication can be logged on an external USB mass storage device or an internal 16 GB SD card	Log files can be uploaded from remote
Firewall	Preconfigured firewall configurations can be enabled/disabled	Stand-alone firewall configuration only
Connectors	<ul style="list-style-type: none"> – D-Sub 9 pin, female type (for serial and modem lines) – RJ-45 connector for Ethernet – Standard Type A connector for USB 	
Cables	– RS232 lines: two unshielded twisted pairs	Cat.3 UTP, max. 15 m
Power supply requirements	<ul style="list-style-type: none"> – Input voltage (DC power supply to NK8231 board) – Power (NK8231 only) 	10-33 Vdc 4.3 W at 12V or 4.8 W at 24V
Operating conditions	<ul style="list-style-type: none"> – Temperature range – Humidity 	0 to 50 °C 10 to 95 % non-condensing
Dimensions	– NK8231 board	W x H x D [mm] 160 x 100 x 35 (Euro-size PCB)
Weight	– NK8231 board	0.226 kg
Local embedded Input	3 digital inputs	Note: Not yet supported by MM2000
Local embedded Output	1 relay output	Note: Not yet supported by MM2000
Regulatory Approvals (CE, FCC conformity)	EN 50581 EN 61000-6-3 EN 50130-4 FCC Part 15 Class B	RoHS EMC emission EMC immunity EMC emission

Disposal



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

Current local legislation must be observed.

Related Products

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

Details for ordering

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

Configuration tools

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

Sales and Technical documentation

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

Export restrictions

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