

SPERA™



### ■ Description

Nittan's SPERA NFU-7000-L Network Fire Alarm Control Panel offers modular components to meet a wide variety of applications. Designed for peer-to-peer network communications, the NFU-7000-L allows for a maximum of 63 nodes, while providing reliability, flexibility and expandability.

The NFU-7000 EV protocol is based on the platform which acquired reliabilities in European and Marine markets. This panel has a loop driver card which is capable of driving 2 loops. A Nittan EV protocol supports 254 addresses per loop. Owing to the contribution of expandability, addressable detectors and modules are available to be installed without constraint of address number allocation.

In addition, the base panel includes four Class A/B (Style Z/Y) Notification Appliance Circuits rated at 1.7 Amps each and a large 16 x 40 back-lit alphanumeric LCD display.

NFU-7000-L panel can see other panels' condition of the same network. Each panel can be configured by any panel through the network using SPERA configurator.

The network interface module allows the panels to communicate on a peer-to-peer network via an industry standard ARCNET protocol. The network capabilities allow site specific customization and the ability to meet local and national requirements.

### ■ Features

#### Fire Alarm Control

- One driver card capable of 2 loops is equipped as standard
- NFU-7000-L has capability of 7 driver cards storage (max 14 loops)
- One loop supports 254 addresses which can be wired in Class A (Style 6 or 7) or Class B (Style 4)
- Use of shielded cable is not required for SLC loops
- Modular design
- Four Class A/B (Style Z/Y) Notification Appliance Circuits rated at 1.7 Amps each
- One Auxiliary power supply, rated at 1.7 Amps for 24 VDC and one resettable 4-wire power supply
- Large 16 line x 40 character Back-lit LCD Display with user friendly menu
- Programmable Switch Inputs which allow for multifunctional outputs
- Four Status Queues with selector switches and LEDs for Alarm, Supervisory, Trouble and Monitor
- Auxiliary relay contacts for Common Alarm, Common Supervisory and Common Trouble
- RS-232 port for remote system printer
- Two Event History Logs comprised of a 1000 alarm history log for alarm related events and a 6000 event history log for all events
- Supports three configuration files (current, previous and next configuration) with "hot swap" support
- Supports Conventional Hardwire Adder Modules
- Built-in One Man Walk Test operation
- Provides drift compensation for photoelectric smoke detectors
- Capability to adjust sensitivity levels of intelligent smoke detectors
- Real time 3D graphical monitoring and control by Nittan's NFU-Graphic-monitor
- BACnet support
- Supports Boolean logic functions
- Built-in Ethernet port
- UL listed for Smoke Control
- Manual Control Function
- Input Simulation Function
- Multiple group bypass function with built-in false alarm prevention technology
  - Network Node Bypass
  - Node Outputs Bypass
  - Input Zone Bypass
  - Relay Disconnect
  - Device/Circuit Bypass

#### Network Features

- Up to 63 panels
- Peer-to-peer network communications
- Mutual surveillance / 2 way control available
- Class A (Style 6 or 7) or Class B (Style 4) wiring configuration
- ARCNET protocol
- Supports copper and/or fiber optic network cable

## ■ SPERA NFU-7000 Series Network Fire Alarm Control Panels



### NFU-7000-L Network Fire Alarm Control Panel

This main chassis comes complete with one Dual Loop Driver Card (254 Analog Detectors and Addressable Modules per loop), 4 Class A/B (Style Z/Y) NACs (1.7 Amp each), a NK-DISP-1640 16 x 40 Graphic LCD display, and a 12 ampere power supply which charges 17-65 AH batteries. The NK-7000FAC main fire alarm board supports the NK-FNC Network Controller Module over the main board plus additional space in the backbox for 8 Driver Cards. The enclosure consists of the NK-7000LBB backbox, the NK-7000LDR red door, the NK-7000LEXC12 and the NK-7000LEXC06 expander chassis.

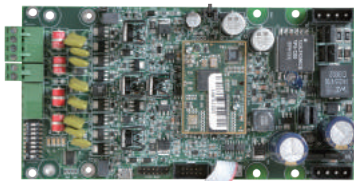
### NK-7000LEXC12

Expander Chassis provides space for 12 adder modules. This chassis mounts into the NK-7000LBB backbox.

### NK-7000LEXC06

Expander Chassis provides space for 6 adder modules. This chassis mounts into the NK-7000LBB backbox.

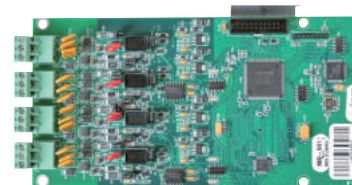
## ■ Adder Loop Controller Module



### NK-LDC-3 Dual Loop Driver Card

The NK-LDC-3 Dual Loop Driver Card provides two Signaling Line Circuits (SLC) to the SPERA system consisting of 254 Addressable Modules and Detectors per loop. The NK-LDC-3 occupies one module slot. The NFU-7000 Basic Package includes one NK-LDC-3.

## ■ Adder Network Controller Modules

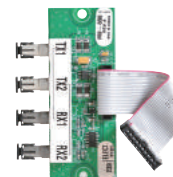


### NK-FNC Fire Network Controller Module

The NK-FNC provides the network capability to the NFU-7000 panels. This module is required per each network node panel. In addition, the NK-FNC provides an interface for adding an optional NK-FOM-SP Fiber Optic Network Adder Module. The NK-FNC mounts in the NFU-7000.

## ■ NFU-7000 Electrical Specifications

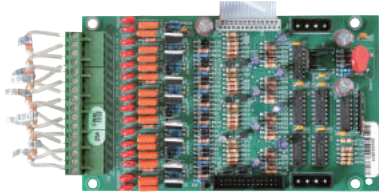
AC Line Voltage	120 VAC, 60 Hz / 240 VAC, 50 Hz 4 A / 2 A (primary)
Power Supply Ratings	12 A max. (secondary)
For Indicating Circuits	24 VDC unfiltered, 10 A max.
Battery Type	24 VDC, Gel-Cell/Sealed Lead-Acid
Battery Charging Capability	17-65 Ah batteries



### NK-FOM-SP Fiber Optic Network Adder Module

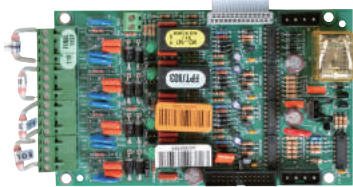
The NK-FOM-SP Fiber Optic Network Adder Module allows for the use of fiber optic cabling on the NFU-7000. The NK-FOM-SP will be mounted over the NK-FNC with seamlessly connecting to that interface.

## ■ Adder Hardware Modules



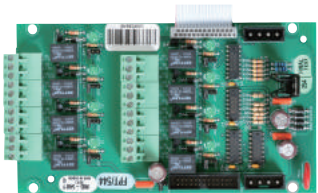
### **NK-DM-8A Eight Initiating Circuit Module**

The NK-DM-8A provides 8 Class B (Style B) or 4 Class A (Style D) Initiating Circuits configurable for Alarm, Supervisory or Trouble zones. The NK-DM-8A occupies one module slot in the NFU-7000.



### **NK-SGM-4A Four Notification Appliance Circuit Module**

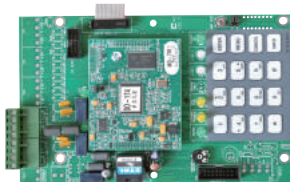
The NK-SGM-4A provides 4 Class A/B (Style Z/Y) Notification Appliance Circuits (NAC) configurable as Silenceable or Non-Silenceable. Each NAC circuit is rated at 1.7 Amps. The NK-SGM-4A occupies one module slot in the NFU-7000.



### **NK-RM-8A Eight Relay Circuit Module**

The NK-RM-8A provides eight individual configurable relays per module. Each relay provides one Form C contact rated at 28VDC @1 Amp (resistive load) as well as a Green LED to indicate that the relay is active. The NK-RM-8A occupies one module slot in the NFU-7000.

## ■ Adder Auxiliary Modules



### **NK-AD-300 Digital Alarm Communicator Module**

The NK-AD-300 Digital Alarm Communicator Module allows the NFU-7000 to transmit Alarm, Supervisory and Trouble information on two telephone lines to a monitoring facility. The NK-AD-300 occupies one module slot in the NFU-7000.

## ■ Display Modules



### **NK-FDX-8 Fan Damper Control Module**

The NK-FDX-8 Fan Damper Control Module provides individually programmed circuits which can be used for fan or damper control. The NK-FDX-8 connects to the main panel or the NK-AN-LCD Annunciator and occupies one display position in the NFU-7000 Series enclosures.



### **NK-IPS-24 Programmable Input Switches Module**

The NK-IPS-24 provides 24 programmable switches that can be configured for ancillary functions such as zone bypass or added common control functions. The NK-IPS-24 connects to the main panel or the NK-AN-LCD when mounted remotely. The NK-IPS-24 occupies one display position in the NFU-7000 Series enclosures.

## ■ Graphic Monitor Software



### **NFU Graphic Monitor Software (NFU-GM)**

Nittan's NFU-GM Graphic Monitor software is an advanced fire alarm management and warning system that provides building ready monitoring, control and software management solutions that allows a user to monitor remote sites from multiple operator workstations located anywhere in the world. The NFU-GM software is available in four versions:

Standard (NFU-GM), Mini (NFU-GM-mini), Network with remote control function (NFU-GM-CTRL) and Network for plural network systems (NFU-GM-NETW)



## Remote LCD Annunciators



### NFU-AN-GL Remote Graphic LCD Annunciator

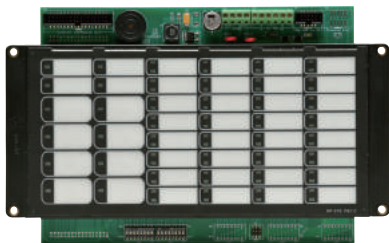
The NFU-AN-GL includes a NK-AN-BB1R Enclosure and a NK-AN-LCDG 16 line x 40 character back-lit graphical LCD display that is used to display 8 events per page. Each event is displayed over 2 lines with 40 characters per line allowing emergency information to be displayed in an easy to read format. The NK-AN-LCDG occupies one display position in the NK-AN-BB Series enclosures.



### NK-AN-LCD Remote LCD Annunciator Module

The NK-AN-LCD Remote LCD Annunciator Module is equipped with a 4 line x 20 character back-lit LCD display that provides the same functions as the main display on the fire alarm control panel. The NK-AN-LCD occupies one display position in the NK-AN-BB Series enclosures. The enclosures are ordered separately.

## Remote LED Annunciators



### NK-AN-32TZDS Remote LED Annunciator Module

The NK-AN-32TZDS Remote LED Annunciator Module provides common annunciator functions and 32 points of LED annunciation. The NK-AN-32TZDS has indicators for A.C. On, Common Trouble and Signal Silence and controls for System Reset, Lamp Test, Fire Drill, Buzzer Silence and Signal Silence. The NK-AN-32TZDS occupies one display position in the NK-AN-BB Series enclosures.

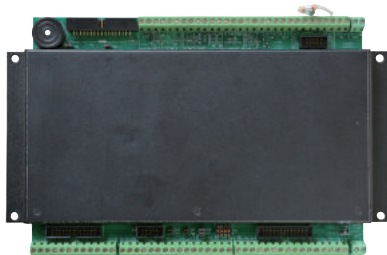
## Programmable LED Adder Module



### NK-TZDS-48A Programmable LED Adder Module

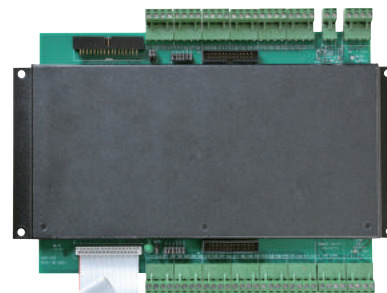
The NK-TZDS-48A Programmable LED Adder Module provides 48 programmable bi-colored LEDs. The NK-TZDS-48A connects to the main panel or either the NK-AN-LCD or NK-AN-32-TZDS when mounted remotely. The NK-TZDS-48A occupies one display position in the NFU-7000 or NK-AN-BB Series enclosures.

## Graphic Annunciator Driver Modules



### NK-MG-32 Main Graphic Driver Module

The NK-MG-32 Main Graphic Driver Module provides common control inputs for the common control switches such as System Reset, Signal Silence, Auxiliary Disconnect, Fire Drill, Lamp Test, Acknowledge and General Alarm. The NK-MG-32 can also drive up to 32 supervised outputs. These output points are capable of driving LEDs or incandescent lamps. The NK-MG-32 mounts in a graphic annunciator wallbox or in the NFU-7000 enclosures. An external power supply is required for incandescent lamps and lamp test.



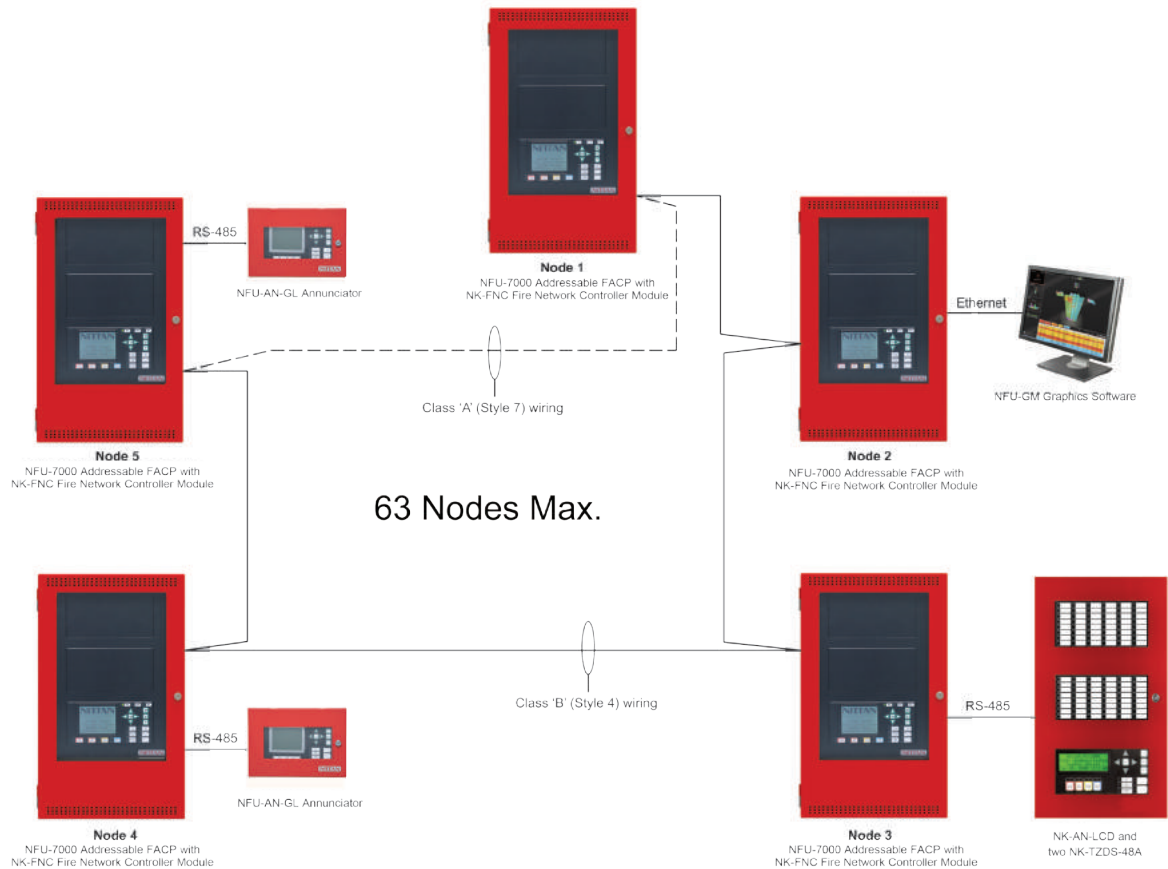
### NK-AG-48 Adder Graphic Driver Module

The NK-AG-48 Adder Graphic Driver Module can be used with the NK-MG-32 to support an additional 48 supervised outputs. The NK-AG-48 mounts in a graphic annunciator wallbox or in the NFU-7000 enclosures.

## Dimensions for Annunciator Module Enclosures

Model	Dimensions
NK-AN-BB1R	H 229 mm x W 324 mm x D 30 mm
NK-AN-BB2R	H 457 mm x W 324 mm x D 30 mm
NK-AN-BB3R	H 673 mm x W 324 mm x D 30 mm

## ■ Typical SPERA NFU-7000 Networked System Configuration



## ■ Current Consumption

Model Number	Description	Standby (Amps)	Alarm (Amps)
<b>Basic Package</b>			
NFU-7000	Analog Addressable Fire Alarm Control Panel (12 Amp) with one NK-LDC-3, 2 loops expandable to 6 loops	0.469	0.938
NFU-7000-L	Analog Addressable Fire Alarm Control Panel (12 Amp) with one NK-LDC-3, Large Enclosure Type, 2 loops expandable to 14 loops	0.469	0.938
<b>Options</b>			
NK-LDC-3	Dual Loop Driver Card	0.130	0.170
NK-FNC	Fire Network Controller Module	0.190	0.190
NK-FOM-SP	Fiber Optic Network Adder Module	0.015	0.015
NK-DM-8A	8 Initiating Circuit Module	0.080	1 zone active: 0.125 2 zone active: 0.170 4 zone active: 0.275 6 zone active: 0.370 8 zone active: 0.465
NK-SGM-4A	4 Notification Appliance Circuit Module	0.060	0.258
NK-RM-8A	8 Relay Circuit Module	0.025	0.150
NK-AD-300	Digital Alarm Communicator/Dialer Module	0.045	0.120
NK-IPS-24	Programmable Input Switches Module	0.010	0.015
NK-FDX-8	8 Fan Damper Control Module	0.015	0.035
NK-TZDS-48A	Programmable LED Adder Module	0.022	1 zone active: 0.026 2 zone active: 0.030 4 zone active: 0.039 48 zone active: 0.262
NFU-AN-GL	Remote Graphic LCD Annunciator	0.139	0.164
NK-AN-32TZDS	Remote LED Annunciator Module	0.050	32 zone active: 0.300
NK-MG-32	Main Graphic Driver Module	0.035	32 zone active: 0.163
NK-AG-48	Adder Graphic Driver Module	0.035	# of LEDs x 4mA

## ■ Ordering Information

Model	Description
<b>Basic Package</b>	
<b>Network Fire Alarm Control Panel</b>	
NFU-7000	Network Fire Alarm Control Panel with 12 Amp power supply. Includes one NK-7000FAC main board, one NK-LDC-3 Dual Loop Driver Card, one NK-DISP-1640 16 x 40 Main Graphic LCD Display, one NK-7000BB Backbox and one NK-7000DR Red Door.
NFU-7000-L	Network Fire Alarm Control Panel with 12 Amp power supply. Includes one NK-7000FAC Main Board, one NK-LDC-3 Dual Loop Driver Card, one NK-DISP-1640 16 x 40 Main Graphic LCD Display, one NK-7000LBB Large Backbox, one NK-7000LDR Large Red Door, and one NK-7000LEXC12 and NK-7000LEXC06 Expander Chassis.
<b>Options</b>	
<b>Adder Loop Controller Modules</b>	
NK-LDC-3	Dual Loop Driver Card
<b>Adder Network Controller Modules</b>	
NK-FNC	Fire Network Controller Module
NK-FOM-SP	Fiber Optic Network Adder Module
<b>Adder Hardwire Modules</b>	
NK-DM-8A	Eight Class B (Style B) or 4 Class A (Style D) Initiating Circuit Module
NK-SGM-4A	Four Class A/B (Style Z/Y) Notification Appliance Circuit Module (Rated at 1.7 Amps per circuit)
NK-RM-8A	Eight Relay Circuit Module c/w eight form C relays (Rated for 28 VDC @ 1 Amp max. per relay)
<b>Adder Auxiliary Modules</b>	
NK-AD-300	Digital Alarm Communicator Transmitter/Dialer Module
<b>Display Modules</b>	
NK-IPS-24	Programmable Input Switches Module c/w 24 Selector Switches and 24 Bi-Coloured LEDs
NK-FDX-8	Fan Damper Control Module
NK-TZDS-48A	Programmable LED Adder Module c/w 48 Bi-Coloured LEDs and 48 Trouble LEDs
<b>Remote Annunciator Modules</b>	
NK-AN-LCD	Remote LCD Annunciator Module
NK-AN-LCDG	Remote Graphic LCD Annunciator Module (Included in NFU-AN-GL Remote Graphic LCD Annunciator)
NK-AN-32TZDS	Remote LED Annunciator Module c/w 32 Bi-Colored LEDs
<b>Enclosures for Remote Annunciator Modules / Display Modules</b>	
NK-AN-BB1R	Remote Enclosure with keylock door. Houses one module.
NK-AN-BB2R	Remote Enclosure with keylock door. Houses two modules.
NK-AN-BB3R	Remote Enclosure with keylock door. Houses three modules.
<b>Graphic Driver Modules</b>	
NK-MG-32	Main Graphic Driver Module c/w 32 Supervised Outputs
NK-AG-48	Adder Graphic Driver Module c/w 48 Supervised Outputs
<b>Graphic Monitor Software</b>	
NFU-GM-MINI	Mini Licence for monitoring a network connected within 2,000 objects.
NFU-GM	Standard Licence for monitoring a network connected within 10,000 objects.
NFU-GM-CTRL	Control Licence for monitoring and controlling a network connected within 10,000 objects.
NFU-GM-NETW	Network License for managing multiple networks with a single USB stick. Requires Mini, Standard and/or Control licenses separately.

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For more information, contact with NITTAN.

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