# SHIELD®
TRUSTED WORLDWIDE

# INTELLIGENT 1, 2 & 4 LOOP FIRE ALARM CONTROL PANELS

## FEATURES

- Shield user interface with graphical LCD
- Multi-pattern & two-stage NAC control
- Remote diagnostic capabilities
- Shield networking - up to 200 FACP
- Built-in intelligent multi-meter
- Up to 504 analogue-addressable points
- Automatic drift compensation per detector
- Automatic detector testing with maintenance alert
- Alarm verification and PAS
- Class X, A or B SLC operation (supports loop-powered technology)
- Synchronisation of audibles and visuals (panel or network wide)
- User-friendly PC-NeT field configuration program
- 5 to 10 Amps of system power
- "Auto-learn/loop detection" programming
- Class A or B NAC circuits
- Voltage-regulated NACs (compatible with most listed NAC devices)

SIGNALING
UL® LISTED

## PRODUCT INFORMATION

The NEO multi-loop panel is available in three standard models: the NX10-FACP-1L (1 loop), NX10-FACP-2 (2 loop) and NX10-FACP-4 (4 loop). Designed with installation and service engineers in mind, these intelligent panels are modularly packaged, using surface mount and dual flash microprocessor technology, with onboard real-time clocks for ease of installation, troubleshooting, programming and maintenance.

The NX10-FACP-1L provides one Style 4 or Style 6/7 signalling line circuit, whilst the NX10-FACP-2 provides two Class X, A or B signalling line circuits (SLCs) and the NX10-FACP-4 provides four Class X, A or B signalling line circuits (SLCs). Communication to field devices attached to the SLCs is via an advanced, 100% digital protocol which has the advantages of being highly immune to noisy environments and the ability to operate over non-shielded cable without causing interference problems with sensitive electronic equipment.

Each SLC supports up to 126 analogue-addressable devices (any combination of intelligent detectors, input and/or output devices, including loop-powered technology devices). In addition, our unique sub-addressing of various input and/or output devices permits further system expansion.

The NX10-FACP-1L and NX10-FACP-2 come with two filtered, voltage-regulated notification appliance circuits (NACs), Class A or B, each rated 2 Amp @ 24 VDC. The onboard NAC outputs provide compatibility with most listed notification appliances.

The NX10-FACP-4 fire panel provides four signalling line circuits (SLCs) and four fully filtered, voltage-regulated notification appliance circuits (NACs), each rated 2 Amp @ 24 VDC. In this configuration, the NEO panel can accommodate a total system capacity of 504 analogue addressable points as standard, not counting sub-addressing capacity.

The NX10-FACP-1L, NX10-FACP-2 and NX10-FACP-4 panels have resettable and non-resettable power outputs, each rated 0.5 Amp @ 24 VDC, for connection to four-wire conventional smoke detectors and/or ancillary devices. Each NX10-FACP-2 and NX10-FACP-4 contains three field-programmable Form "C" relays, each rated 1 Amp @ 30 VDC, defaulted as a fail-safe trouble relay, alarm relay and supervisory relay.

Simplifying and reducing initial system set-up, each NEO intelligent fire alarm control panel is equipped with an installer-friendly "auto-learn/loop detection" feature that permits the rapid recognition of all signalling line circuits' devices. This rapid recognition simplifies the immediate assignment of critical life safety functions. Assignments include intelligent detector type and operation criteria, addressable input device recognition as an alarm input, and addressable output control on a general alarm basis.

Designed with powerful built-in installation and customisation tools, NEO fire panels can adapt to virtually any application requirement. With Dynamix I/O programming, typical time-consuming complexities associated with I/O relationship programming such as two-stage multi-pattern NAC control, intelligent detector drift compensation, precision response/sensitivity mode settings and flexible timing functions are significantly reduced.
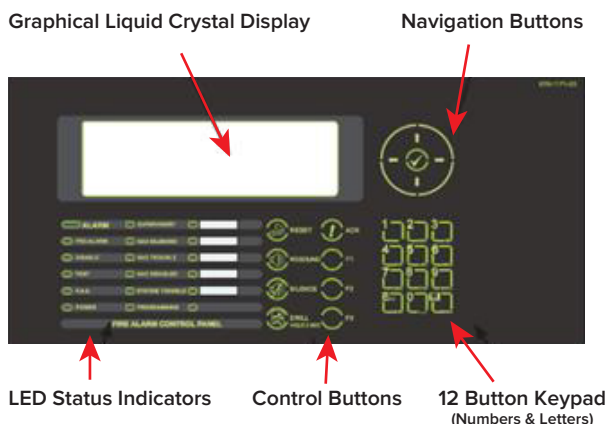
NEO fire control panels are fully field-programmable via the onboard graphical LCD display and alphanumeric keypad.

Front-panel programming may encompass defining input to output relationships, configuring output circuit characteristics, entering zone, device and other text descriptions, and configuring multiple user-access passwords.

To maximise capability and flexibility, the Shield Windows-based PC-NeT field configuration tool is a powerful, user-friendly programming tool that allows users to perform virtually any I/O relationship with multiple criteria. Project commissioning and troubleshooting is fast and efficient thanks to simple dropdown menus with point-and-click operation.

The NEO system accommodates remote graphical LCD annunciators (with or without system control capabilities) on the Shield network. Multiple annunciator locations can be created based on installation demands. These locations can have either: no system control, partial system control or full system control. Information on system status changes can be vectored, allowing displays to receive information on specific events only.

NEO panels can accommodate large, sophisticated applications with relative ease. When installations exceed a single panel's capacity, the Shield peer-to-peer network may be implemented, providing up to 200 network nodes. The network is completely field programmable for inter-panel functionality or segregation of information and control, based on the overall installation requirements.

**Graphical Liquid Crystal Display**       **Navigation Buttons**



**LED Status Indicators**     **Control Buttons**     **12 Button Keypad**
(Numbers & Letters)

**Shield User Interface w/Graphical LCD:**

Designed to be user-friendly and easy to operate, the Shield User Interface w/Graphical LCD (backlit 240 x 64) is the information and control center for the NEO Series Intelligent Fire Alarm Control Panel(s).

The unit incorporates a graphical LCD display, LED status Indicators, control buttons (including 3 programmable buttons), navigation buttons, and a 12 button keypad for complete system status, interrogation, and control.

# TECHNICAL DATA SHEET

## BUTTON (KEYS)

| | |
|---|---|
| | Reset |
| | Ack (panel buzzer acknowledge) |
| | Resound (resound signals) |
| | Silence (silence signals) |
| | Fire Drill |
| | Function Keys (3-programmable contral buttons) |
| | Navigation Keys (up, down, left, right, and tick [enter]) |
| | 12 Button Keypad (numbers, letters, esc, and menu) |

## LED INDICATORS

| Alarm | Red |
|---|---|
| Pre-Alarm | Red |
| Disable | Yellow |
| Test | Yellow |
| P.A.S. | Yellow |
| Power | Green |
| Supervisory | Yellow |
| NAC Silenced | Yellow |
| NAC Trouble | Yellow |
| NAC Disabled | Yellow |
| System Trouble | Yellow |
| Programming | Yellow |
| Programmable LED 1 | Red |
| Programmable LEDs 2-5 | Yellow |

Designed with the technician in mind, each module of an NEO panel is easy to install and service. The integral power supply offers status LEDs, temperature-compensated charging and the ability to operate directly from the batteries when AC supply is not yet available at the installation site.

A unique built-in intelligent multi-meter allows technicians to interrogate any input and/or output and diagnose potentially time-consuming issues. Servicing after installation can be as simple as using the Shield remote diagnostic virtual panel simulator. The simulator can be activated from any Windows-based PC and connected to the installation site via a dedicated modem. It emulates the on-site control panel LCD and keypad in real time from an off-site location, and is an incredibly powerful tool for diagnosing and troubleshooting site applications.

## WIRING DIAGRAM



Note: Specifications are subject to change without notice.
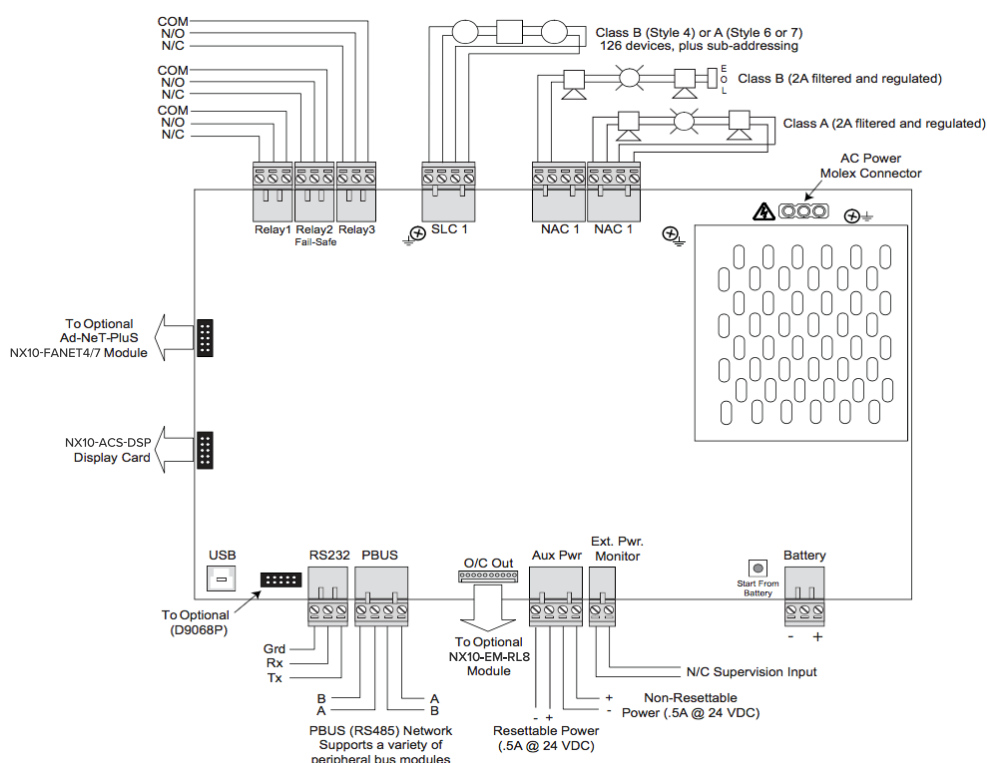
## SPECIFICATIONS

| | |
|---|---|
| **Operating Voltage** | 120 VAC (1.4A) - 240 VAC (0.7A), 50/60Hz |
| **System-Brown-Out** | 98 VAC nominal |
| **Battery Circuit** | |
| Charging Voltage | 27.4 VDC nominal* |
| Temp. Compensated Charging Current | 2.3 Amp |
| Battery Derating Factor | 0.83A |
| Battery Capacity | 7 Ah (minimum), 75 Ah (maximum) |
| Battery Fuse | 10A @ 240 VAC, Time delayed, Ceramic, High breaking (In-line WireLink) |
| **Fire, Supervisory, and Trouble Relays** | (Power limited - when using system power) |
| Type | Form "C" |
| Rating | 1A @30 VDC/VAC |
| Trouble Relay | Normally active (Fail-safe operation) |
| **Auxiliary Power Outputs** | (Power limited) |
| Resettable | |
| Voltage | 24 VDC |
| Current | 0.5A |
| Reset Time | 10-15 seconds |
| Non-Resettable | |
| Voltage | 24 VDC |
| Current | 0.5A |
| **Humidity** | 85% RH |
| **Temperatures** | |
| Operating | 32 °F - 120 °F (0°C - 49°C) |
| Recommended Room | 60 °F - 86 °F (15°C - 27°C) |
| **Enclosure Dimensions** | |
| Back Box, Housing | 22.6"H x 14.5"W x 5.5"D , 24.1"H x 16"W x 6.3"D |
| **SLC Loop** | (Power limited) |
| Class (Style) | Class X, A or B |
| Voltage | 24 VDC |
| Minimum Return Voltage | 17 VDC |
| Current | 0.5A |
| **NAC Circuits** | (Power limited) |
| Class (Style) | Class A or B |
| Voltage | 24 VDC (filtered and regulated) |
| Minimum Return Voltage | 16 VDC |
| Current | 2A (each) |
| Maximum Voltage Drop | 3 VDC |
| Maximum Line Impedance | 1.5Ω |
| **RS232** | |
| Baud Rate | 9600 |
| Parity | None |
| Data Bits | 8 |
| Stop Bits | 1 |

| **Base Card Operating Current** | Quiescent | Alarm |
|---|---|---|
| NX10-FACP-2 | 110 mA | 195 mA |
| NX10-FACP-4 | 175 mA | 260 mA |

Note: Specifications are subject to change without notice.

## ORDERING INFORMATION

| | |
|---|---|
| **NX10-FACP-1L** | Intelligent Fire Alarm Control Panel with cabinet, power supply/charger, 1 SLC, 2 NACs, 3 auxiliary relays (Cabinet supports batteries 7Ah - 18Ah) (126 Addressable Points) |
| **NX10-FACP-2** | Intelligent Fire Alarm Control Panel with cabinet, power supply/charger, 2 SLCs, 2 NACs, 3 auxiliary relays (Cabinet supports batteries 7Ah - 18Ah) (254 Addressable Points) |
| **NX10-FACP-4** | Intelligent Fire Alarm Control Panel with cabinet, power supply/charger, 4 SLCs, 4 NACs, 3 auxiliary relays (Cabinet supports batteries 7Ah - 18Ah) (504 Addressable Points) |
| **NX10-FACP** Base Card Option Modules**: | |
| **NX10-EM-LPD** | 2 SLC, 2 NAC Expander Card |
| **NX10-EM-NAC** | 2 NAC Expander Card |
| **NX10-EM-PSU** | 5 Amp Expansion Power Supply Module |
| **NX10-FANET4** | Network Interface Card Class B |
| **NX10-FANET7** | Network Interface Card Class X(A) |
| **NX10-EM-RL8** | 8-Way Relay Output Card (Programmable) |
| **NX10-EM-PRN** | Thermal Strip Printer |

Note: Specifications are subject to change without notice.