Network Cards

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Product Overview:

The **Pertronic Network System** can connect up to 99 nodes using the two-wire RS485 data communication loop. Each node may have a Pertronic F100A, F120A fire alarm control panel, network control unit, network display unit, mini mimic, or FireMap connection.

The network is fault tolerant so that a single break or short-circuit anywhere in the communication loop will not compromise the operation of the system.

A computer may be connected to any of the network cards to configure and program the network.

Panel-to-Panel Mapping:

A device at one panel may be mapped as a network input to one or more of the other panels for 'Alarm' indication or to activate system relays or other mappable outputs. For example, a detector on Panel 3 can be mapped to Panel 5 to activate the evacuation sounders and, for example, Relay 23 on Loop 2.

Up to 64 network inputs may be used for F100A fire alarm control panels, and up to 128 network inputs for F120A fire alarm control panels.

Network Card may be supplied with either "Panel" or "Supervisory" firmware.

Network Card (NETCARD): with "Panel" firmware may be configured as either:

- Panel Network card: Interfaces the system information from individual Fire Panels to the network.
- Network LED mimic card: Drives up to 8 LED display mimics using either 12-Way smart LED mimic or LED address controller (LAC) boards.
- Up to 128 LEDs may be displayed.
- The 'BCO' and 'Evacuation' key-switches at the 12-Way LED mimic or LAC boards operate globally around the network.
- The global system LEDs operate normally to reflect the network status.

Network Card – NCU (NETCD-NCU): with "Supervisory" firmware:

- Can connect to 1 x network control unit (NCU), up to 8 x network display units (NDU), 1 x FireMap connection or 1 x pager system.

Network Display Unit (NDU):

- Displays all alarms, network inputs and pre-alarms by device descriptor and panel location (Alarm, Network and Pre-Alarm queues)
- Allows 'Reset' and 'Isolation' of alarms and network inputs from the relevant queue.
- Isolate queue: indicates all devices that have been isolated across the network.
- Network Fault queue: indicates fault conditions specific to the network.
- Panel Fault queue: indicates the panels, which have fault conditions and the number of faults.
- System Event queue: displays system events eg. 'Silence Alarms', 'Evacuate', etc. for each panel.

Network Control Unit (NCU):

- Includes all of the functions of the NDU plus the ability to select any panel on the network and control its functions directly.
- All menu items of the selected panel may be accessed – status, history log, etc.

Pager:

- Queue events may be configured as outputs to a paging system or network printer

Network Card Specification:

Dimensions:	166 x 96 mm. Mounting holes at centres 153 mm horizontal, 89 mm vertical; mounted in the cabinet.
Power:	Supplied from the panel RS485 connection: 27 Vdc, 75 mA (v 2.20), 27 Vdc, 55 mA (v 2.09)
Connection:	Up to 99 network cards may be connected as a network (addresses 1 to 99).
	These may be a mixture of Pertronic F100A and F120A panels, and supervisory displays.
	The RS485 network data path is a daisy-chained continuous loop using EVACCBL cable.
	The maximum distance between adjacent network cards is 1.0 km.
	Any network card that loses power or becomes inoperative will automatically be isolated from the network.
Integrity:	The network uses isolated RS485 drivers between network cards, eliminating Earth loop problems and providing high noise immunity.
	The network system continues to operate with full functionality in the event of single loop shorts and loop breaks.
LED Mapping:	LED outputs from each panel may be mapped to network inputs of one or more other panels.
	The F100A can accept 64 network inputs; the F120A and LED Mimic 128 network inputs.
Supervisory:	NCU and NDU supervisory displays maintain Alarm, Network Input, Pre-Alarm, Isolate, Fault, and System Event queues from information received from the networked panels.
	The NCU can also control other panels on the network by establishing a link through the network.
Response:	RS485 data on the network is transmitted at a rate of 384 kbps. For a full (99 network cards) system, the maximum transmission time for alarm and other data to reach any point on the RS485 network is less than 2 seconds.

Connection Diagram:
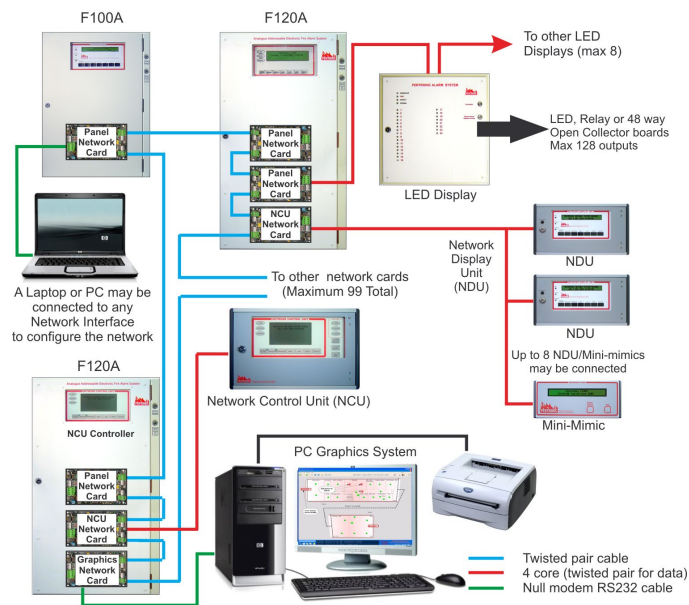
Ordering Information:

Product Code	Description
NETCARD	Network Card – F100A/F120A Panel /LED Mimic
NETCUNZ	Network Control Unit (NZ) in F120A Full Function Mimic
NETCD-NCU	Network Card for Network Control / Display Unit
EVACCBL	Evacuation Amplifier Cable: 1.25 mm^2 Grey Twisted-Pair; 200 m Drum
SGDCI	SGD Cable Internal: Twisted Pair @ 0.5 mm^2; 2 Core @ 0.8 mm^2; 250 m Drum
SGDCE	SGD Cable External: Twisted Pair @ 0.5 mm^2; 2 Core @ 1.13 mm^2; 500 m Drum
SGDCIFR	SGD Cable Internal (Fire Rated): Twisted Pair @ 16/0.2 mm^2, 2 Core @ 16/0.2 mm^2, 100 m Drum