

2C8M NION

Product Installation Document

This document covers the procedures and specifications for installing the above listed unit and when appropriate, information regarding configuration on the monitored device. For more detailed configuration and operation information, refer to the Network Installation manual, Echelon Local Area Server manual, or BCI 3 manual as appropriate.

Description of the 2C8M NION

The 2C8M NION (2 Control, 8 Monitor) is a discrete input/output interface used on the network. The NION provides a gateway to the network for equipment and control panels that have dry contacts. It allows conventional panels and equipment to operate on the same network as equipment with an EIA-232 output.

The 2C8M NION connects a LonWorks™ FT-10 or fiber network, and discrete monitored devices and conventional control panels. It provides a single, two-way communication channel for discrete inputs and outputs when connected to a control panel. NIONS are specific to the type of network to which they connect (FT-10 or fiber). The transceiver type must be specified and ordered separately when ordering the NION.

The 2C8M NION can be powered by any 24VDC power-limited source with battery backup which is UL listed for use with fire protective signaling units. Power must be supervised or placed within 20 ft of the NION with connections run in conduit.

The 2C8M NION mounts in an enclosure (NISCAB-1 or CHS-4L in CAB-3/4 series enclosure) with conduit knockouts.

NOTE: Do not use the CHS-4 chassis. For chassis mounting, the NION requires the CHS-4L. Use of the CHS-4 can cause a circuit short on the NION motherboard with unpredictable results.

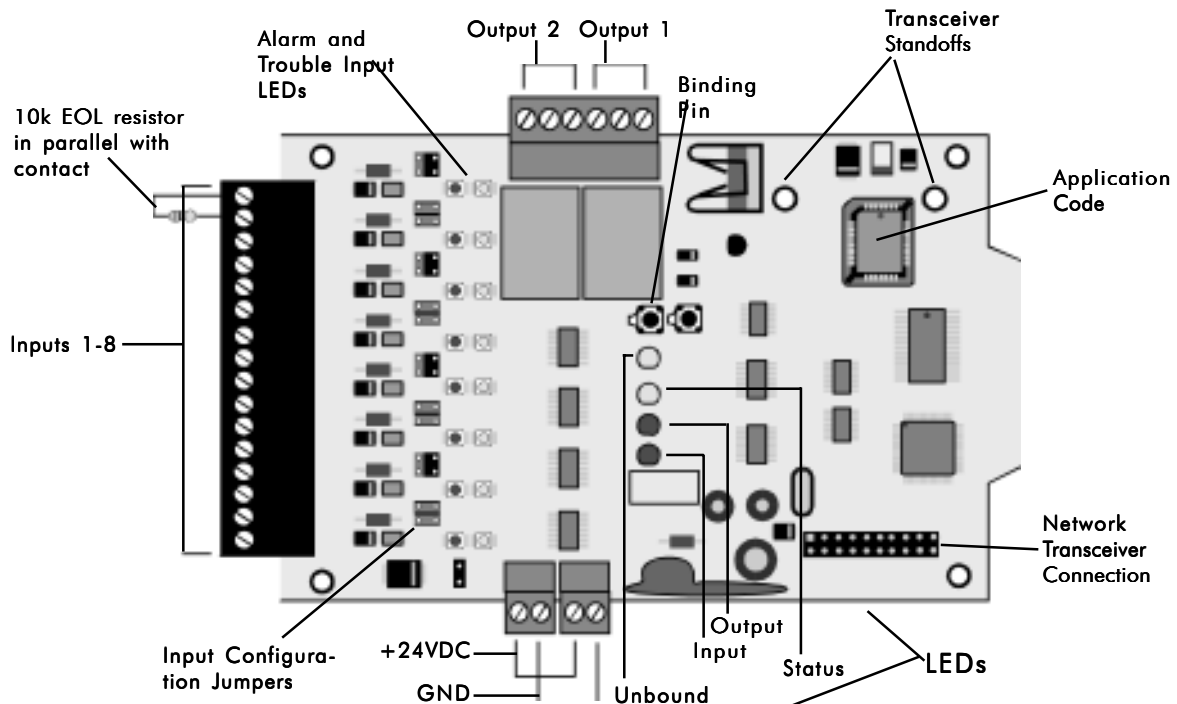


Figure 1: 2C8M NION Board Layout

Document 50815
05/05/03 Rev

B

50815:B ECN 02-298

1

Installation Description

The NION can be installed in the following environmental conditions:

- Temperature range of 0°C to 49°C (32°F - 120°F).
- 93% humidity non-condensing at 30°C (86°F).



NOTE: Use only wire for power limited systems. Power limited wire runs use type FPLR, FPLP, FPL or equivalent cabling per NEC 760.

Mounting

The NION is designed to be installed on a wall within 20 feet of the monitored equipment in the same room. The type of hardware used is at the discretion of the installer, but must be in accordance with local code requirements.

NOTE: When using the DFXC transceiver with the 2C8M NION, be sure to use the longer standoffs and header adapter provided with the DFXC transceiver.

NION Power Requirements

The 2C8M NION requires 24 VDC @ 0.10 A nominal and battery backup in accordance with local code requirements. It can be powered by any power limited 24 VDC source which is UL or ULC listed, as appropriate for your area, for use with fire protective signaling units.



NOTE: Always remove power from the NION before making any changes to switch settings and removing or installing option modules, SMX network modules and software upgrade chips, or damage may result.

NION-2C8M LEDs

Four LEDs on the front panel of the 2C8M NION provide information about module operation. The table below explains the possible conditions.



NOTE: Refer to Figure 1: 2C8M NION Board Layout for the position of each of the LEDs listed below.

LED	Color	Description
Status	Green	This LED provides information on network communication and node binding by one of the modes listed below: Flashing slow - NION is functioning normally. Flashing fast - NION is bound but not communicating, or the packet was lost.
Unbound	Yellow	This LED provides information on node binding and NGM status by one of the three modes listed below: Off - NION is bound. Flashing - NION is not bound (Status LED is off). Solid - NION is in a fault condition or the PROM chip was not installed.
Output	Red	Solid - an output has been energized.
Input	Red	Solid - an input is active.

2C8M NION LED Status Information

I/O Configuration and Connections

Inputs

The NION accepts eight normally open or normally closed dry contact inputs. Each normally open input is monitored by an end-of-line resistor. These inputs are wired to a 16-point plug-in terminal strip in the following pattern:

Input 1 -
point 1 = input line
point 2 = common

through

Input 8 -
point 15 = input line
point 16 = common

The PCB is labeled, and the terminals are numbered for convenience. Inputs are rated for 18V nominal, 1.8mA maximum current and 2,000 ohm maximum resistance.

Each normally open input circuit requires a 10k EOL resistor installed in parallel with the contact.



NOTE: Normally closed inputs are not supervised and cannot be used for fire applications.

Select each input style (NO or NC) by setting jumpers JP4 through JP11 to the desired settings using the following diagram:

Each input also has a related pair of LEDs, a red LED to indicate an alarm state (short) and a yellow LED to indicate a trouble state (open).

Normally Closed



Normally Open

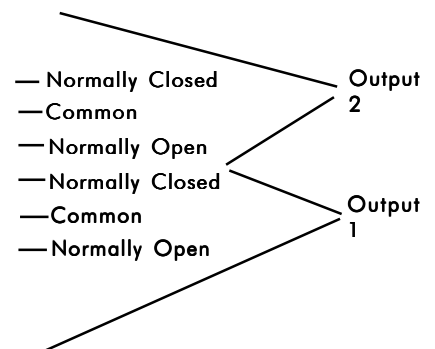
NOTE: This diagram is also printed on the circuit board next to the LEDs.

Outputs

The 2C8M NION provides two SPDT relay outputs. The relays are rated at 5A @ 30VDC. They can be wired for normally open or normally closed operation. All rated loads are resistive. Inductive and tungsten loads will be lower. For special applications, consult with a NOTIFIER applications engineer.



NOTE: Input and output lines should not exceed 2000ft.



NION-2C8M Output Connector

General Configuration

In order to utilize all features available with the 2C8M NION, the 2C8M Scheduling Plug-In utility must be configured at the system workstations. General Plug-In setup information can be found in the Workstation manual.

NOTES