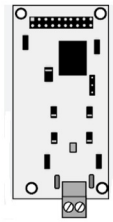

NOTIFIER NION-16C48M Network Input Output Control System Instruction Manual

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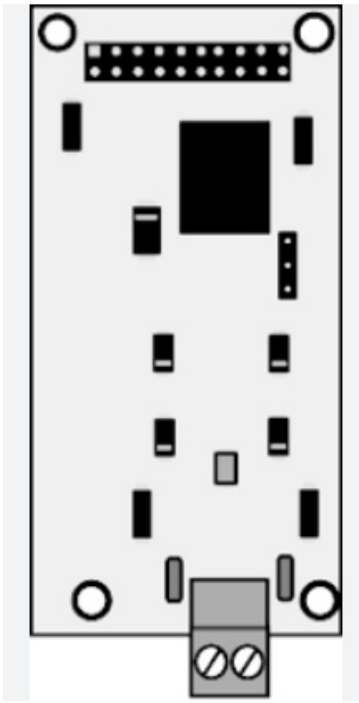
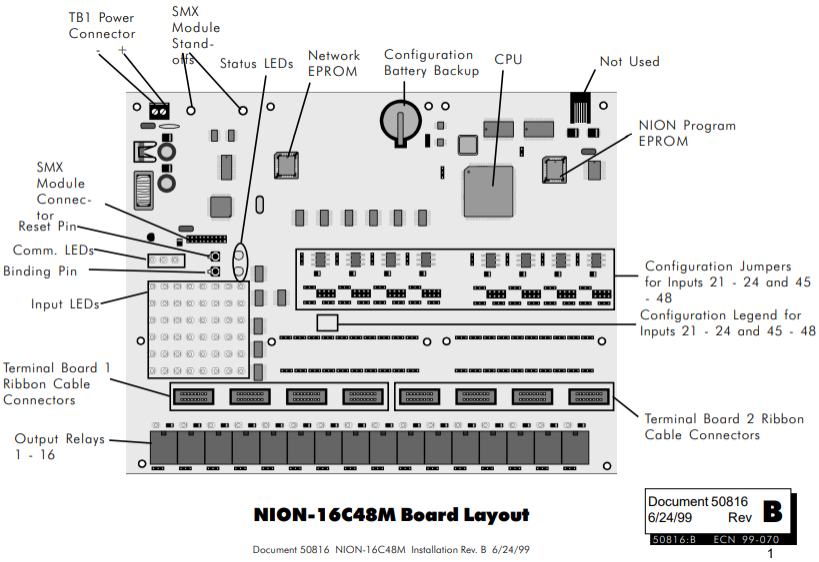


Product Installation Document

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 configura- tion and operation information, refer to Network Installation Manual, Echelon Local Area Server Manual, or BCI 3 Manual as appropriate.

Description of the NION-16C48M
Similar in function to the NION-2C8M, the NION-16C48M (16 Control, 48 Monitor) is a discrete input/output interface used on the network. All of the system components are based on LonWorks™ (Local Operating Network) technologies. The NION-16C48M provides a gateway to the network for discrete monitored devices, equipment and control panels that have dry contacts. It allows discrete devices to operate on the same network as equipment with an EIA-232 output.
The NION-16C48M connects a LonWorks™ FT-10 or FO-10 network with discrete monitored devices and conventional control panels. It provides a single, two-way communication channel for discrete inputs and outputs. NIONs are specific to the type of network to which they connect (FT-10 or FO-10). The transceiver type must be specified and ordered separately when ordering the NION.
The NION-16C48M can be powered by any 24VDC power limited source with battery backup which is UL listed for use with fire protective signaling units however, this unit does include an MPS24BRB power supply. Power must be supervised or placed within 20 ft of the NION with connections run in conduit.
The NION-16C48M mounts in an enclosure (NIS CAB-3) with conduit knockouts. It cannot be rack mounted.



16C48MTB Terminal Board Mounting

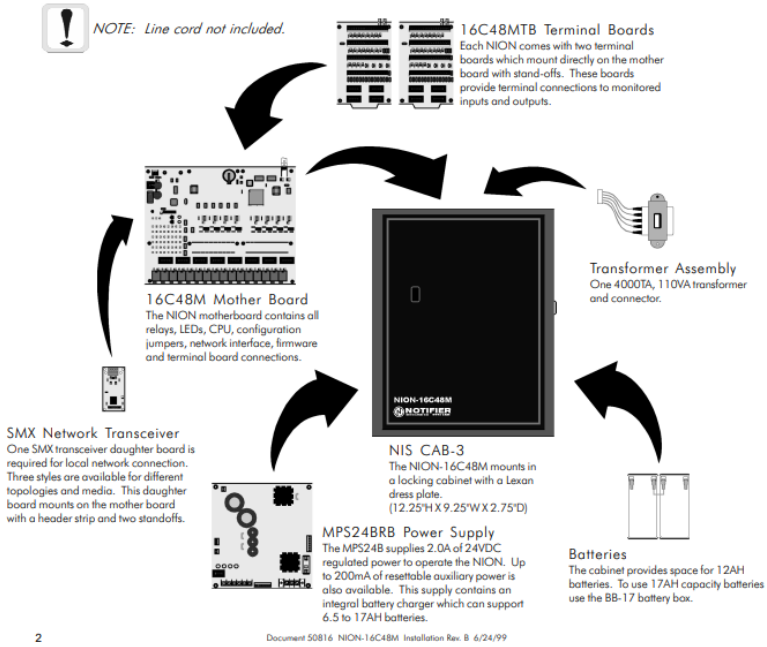
The NION-16C48M is designed to be wired to control panels and the network through plug-in terminal strips. The NION-16C48M has the following features:

- Accepts normally open or normally closed dry contact inputs in any
- Control outputs are SPDT relays rated at 5A @ 30 VDC.
- Powered from an included UL listed power supply, the monitored UL listed control panels or an auxiliary power supply which is power limited, supervised and UL listed for use with fire protective signaling
- Alarm and trouble input
- Status, service, input and output
- Inputs can be configured as either two-state unsupervised or four-state supervised with EOL
- Transformer coupled network connection using SMX style
- Software configurable from the workstation plug-in
- Transient protection to 2400V on all
- Included wall mount enclosure (NIS CAB-3).

NION Components

The following illustration displays components included and required to install a 16C48M on the network. All of these items must be ordered separately.

NOTE: Line cord not inc/uded.



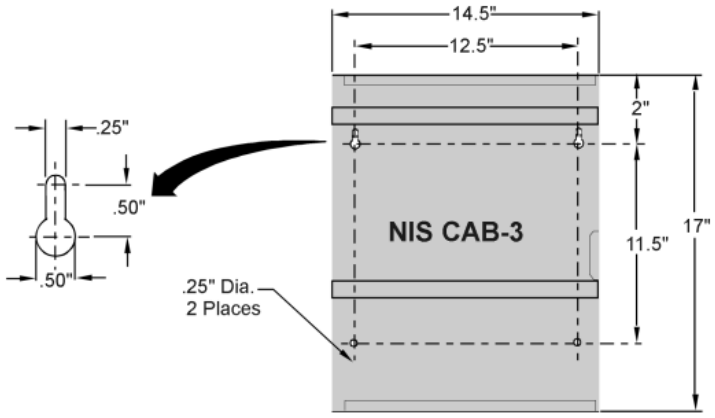
Installation Requirements

The NION-16C48M 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). NIS- CAB3

The NION-16C48M comes standard with a wall mount enclosure, the NIS-CAB3. This enclosure has a locking door and mounting hardware for the 16C48M assembly (motherboard, terminal boards and network transceiver), MPS24BRB power supply, transformer and batteries.
Mounting the enclosure to its wall position

- Use the provided key to unlock the enclosure
- Remove the enclosure
- Mount the enclosure to the Refer to the enclosure mounting hole layout below.
- Mount the MPS24BRB power supply and transformer to the stand-offs in the back of the cabinet using the provided
- Mount the 16C48M motherboard to the mounting rails in the same

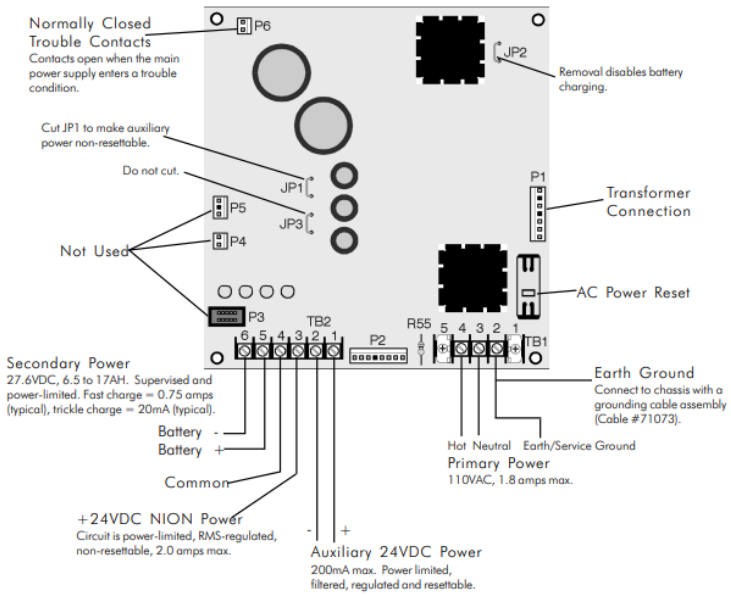


Mounting Location

The NION-16C48M 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.

NION Power Requirements

The NION-16C48M is powered by the included MPS24BRB power supply. The MPS24BRB uses 110VAC, 1.8A(max.) of power and provides 2.0A of 24VDC power and battery backup in accordance with local code requirements.
The MPS24BRB contains a built in battery charging circuit capable of supporting 6.5 to 17AH 24VDC batteries. Alternately, the NION 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. For replacement part orders specify MPS24BRB for Replacement Board. Power connections from the MPS24BRB to the NION must be as follows:
TB1 on the 16C48M motherboard to pins 3 and 4 of TB2 on the MPS24B. Terminals on both boards are labelled for proper connections.



MPS24BRB Power Supply

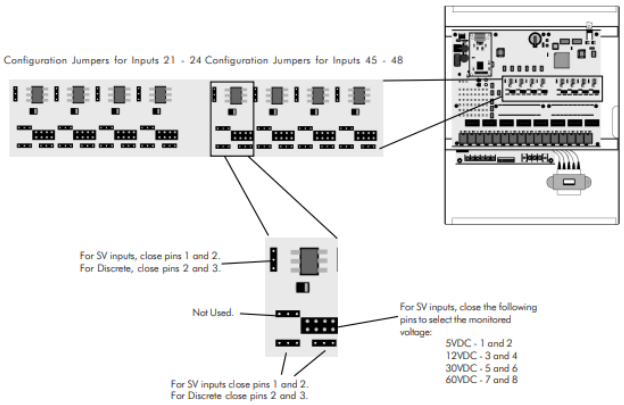
NOTE: A/nayz remove poner from the N/ON before making any changez to znitch zettingz and removing or inzta//ing option modu/ez, SMX netnork modu/ez and zoftnare upgrade chipz or damage may rezu/t.

Input Configuration

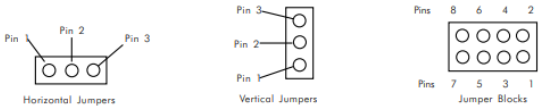
Inputs can be configured for two-state unsupervised or four-state supervised operation. In addition, 8 inputs (21 – 24, 45 – 48) can be configured to monitor switched voltage inputs. Configuration of two-state and four-state operation is performed in the workstation plug-in. Configuration of switched voltage operation is done by setting ¡umpers on the 16C48M motherboard. These ¡umpers are grouped in an area beneath the terminal boards.

Discrete or Switched Voltage Inputs (21 – 24 and 45 – 48) Inputs 21 through 24 and 45 through 48 can be configured to operate as discrete, two-state unsupervised or four- state supervised inputs or, switched voltage (SV) inputs. Each input can be individually configured for maximum flexibility. To define the function of each of these inputs, five ¡umpers must be set. These ¡umpers are grouped together for easy identification. The diagram below shows the location of these ¡umper groups and a breakdown of each ¡umper setting for the defined functions

NOTE: For more information on the 16C48M p/ug-in app/ication, refer to the norkztation manua

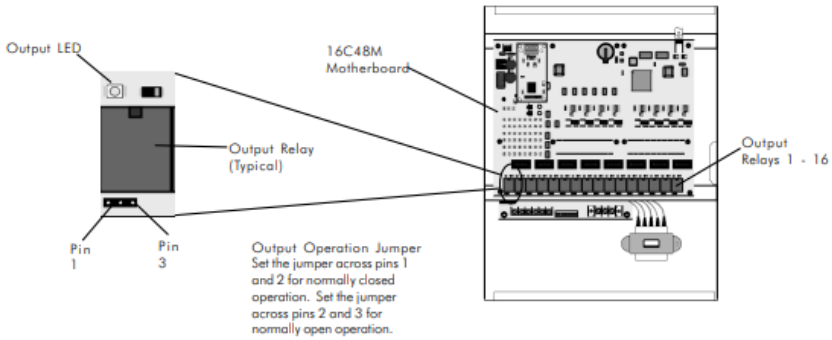


Single Input Jumper Group



Jumper Pin Key

Switched Voltage Input Jumpers



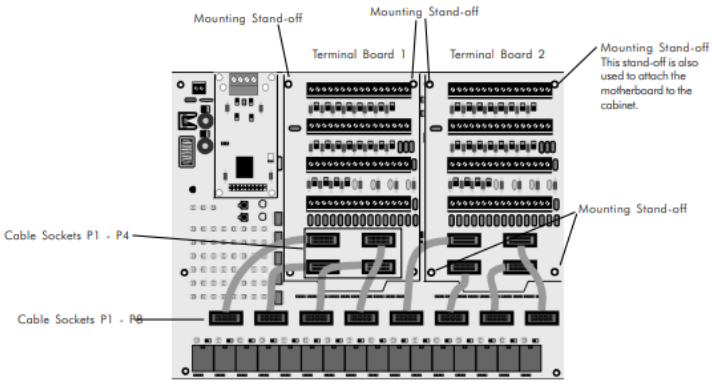
Output Relays and NC/NO Jumper Settings

For information on output LED function, refer to section NION-16C48M Operation. For information on output terminal connections, refer to section NION-16C48MTB Terminal Boards.
Software Configuration In order to utilize all features available with the NION-16C48M, the 16C48M Plug-In utility must be configured at the system workstations. Features include a scheduler for all inputs and outputs and configuring each input as normally open or normally closed. Each Plug-In is described in detail in the Product Installation Description shipped with each NION. General Plug-In setup information can be found in the workstation manual.

16C48M Device Addressing
Device addressing at the workstation uses the following convention: Inputs – IN1 through IN48
Outputs – OUT1 through OUT16

NION-16C48MTB Terminal Boards The Terminal Boards

The NION-16C48M incorporates two terminal daughter boards which are mounted directly to the motherboard using included stand-offs. Both terminal boards are identical and interchangeable. Each terminal board is connected to the motherboard via included ribbon cables (four per terminal board). Point designation for each terminal is determined by the position of the terminal board on the motherboard. Refer to the diagrams below for terminal board mounting and ribbon cable connections.



16C48MTB Terminal Board Mounting

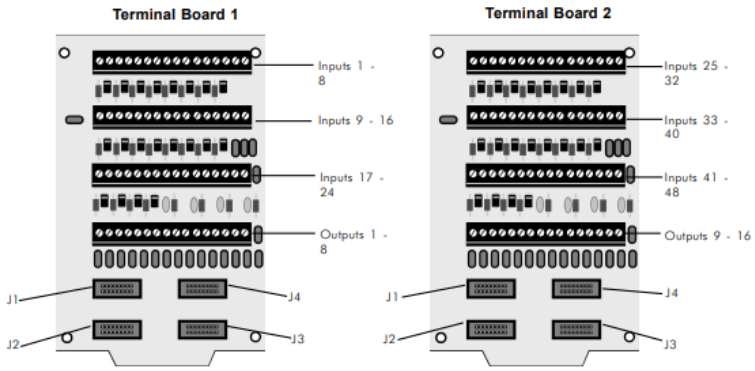
Ribbon cables have universal ends and are keyed for proper connection. The motherboard has eight cable sockets, P1 through P8. Each terminal board has four sockets labelled P1 through P4. Terminal board one (T1) is mounted on the left and terminal board two (T2) is mounted on the left. The chart below maps the motherboard sockets to the terminal board sockets.

Motherboa- rd Socket	Terminal Board	Terminal Socket
P1	T1	P1
P2	**T1**	**P2**
P3	T1	P3
P4	**T1**	**P4**
P5	T2	P1
P6	**T2**	**P2**
P7	T2	P3
P8	**T2**	**P4**

Ribbon Cable Mapping

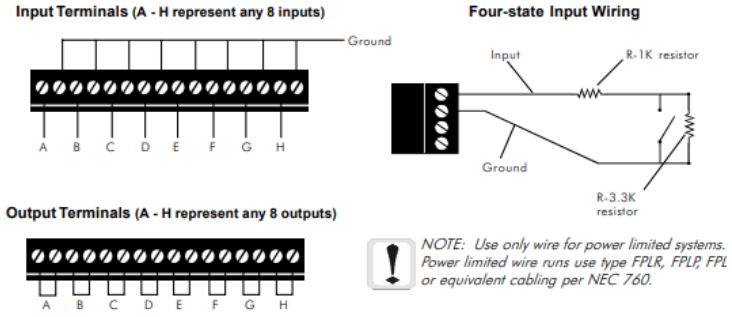
Input / Output Connections

Each terminal board has four rows of plug-in screw terminal connectors to land input and output points. All inputs are rated at 5VDC nominal, 2.5mA maximum current and 500 ohms maximum resistance. The inputs and outputs map to the connectors as described by the following diagrams:



Terminal I/O Mapping

NOTE: For each termina/ connector the inputz and outputz are numbered from /eft to right.



I/O Point Connections

NOTE: /nput ground iz common except for inputz 21 – 24 and 45 – 48 nhen they are uzed for znitched vo/tage monitoring.

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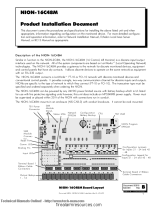	NOTIFIER NION-16C48M Network Input Output Control System [pdf] Instruction Manual NION-16C48M, NION-16C48M Network Input Output Control System, Network Input Output Control System, Input Output Control System, Output Control System, Control System

References

- Fire Alarm Resources | Download fire alarm documents
- tech-man.com