



August 19, 2002

DN-6915 • A0-880

NION-16C48M and NION-48M Discrete Input/Output NIONs

Section: Network Systems

GENERAL

The **NION-16C48M** (16-Control/48-Monitor) is a general-purpose NION (Network Input/Output Node). It is a component of the **UniNet™ 2000** integrated facilities monitoring network and the **Building Communications Interface (BCI)** product lines. Like all UniNet™ components, it is based on LonWorks™ technology.

The NION-16C48M provides 48 inputs for dry contacts plus 16 SPDT relay outputs. Each input can be configured for four-state supervised or two-state unsupervised operation. Optionally, up to eight inputs can be configured to monitor switched voltages. The NION has LEDs to indicate which input is active or in trouble. Similarly, each output has an LED to indicate relay activity. Each input and output has a unique address. The inputs are supervised for four-state operation with end-of-line resistors. The NION-16C48M also has LEDs for communication and NION status, which indicate normal operation and proper network configuration.

All points can utilize a network scheduling software plug-in application, which provides tools for input enabling and disabling and output activation and deactivation on a user-defined schedule.

The NION-16C48M contains the transceiver and network communications software. It accepts and sends standard UniNet™ 2000 messages.

To provide reliable operation, the NION-16C48M employs several protection methods. Transient protection is provided on all terminals, and the network connection is transformer isolated.

This board is also available **without relays**; order **NION-48M**.

FEATURES

- Accepts Normally Open and Normally Closed dry contact inputs and switched voltage inputs.
- Control outputs are SPDT relays rated at 5 A @ 30 VDC and can be configured for either normally open or normally closed operation.
- Network scheduling application.



LISTED
S5697
(NION-16C48M)



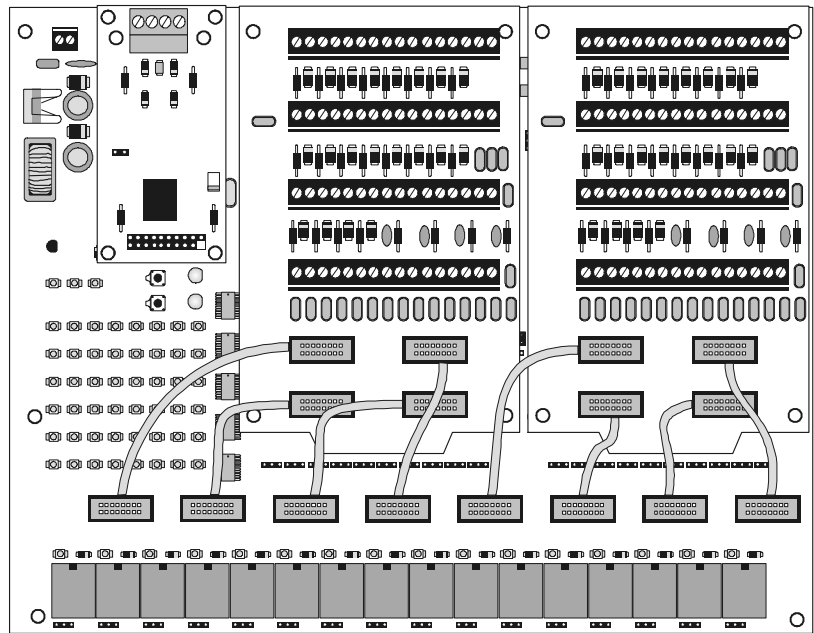
CS100, Vol 8
(NION-16C48M)



California
State Fire
Marshal
7300-1525:102
(NION-16C48M)

MEA

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(NION-16C48M)



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NION-16C48M Board Layout

- Powered by a 24 VDC power supply (**MPS-24BRB with 4000TA**; order separately) with battery charging circuit.
- Status, service, input and output LEDs.
- Inputs can be configured as either two-state unsupervised or four-state supervised with EOL resistors.
- Available without relays: order **NION-48M**.
- Transformer-coupled network connection.
- Transient protection on all terminals.
- Standard wall-mount (**NISCAB-3**) enclosure (order separately).
- Listed to UL 864, 1076.

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact NOTIFIER. Phone: (203) 484-7161 FAX: (203) 484-7118



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APPLICATIONS

The NION-16C48M is used with the UniNet™ 2000 integrated facilities monitoring network and the Building Communications Interface (BCI) products. The NION-16C48M provides a gateway to the UniNet™ 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.

INSTALLATION

The NION-16C48M is mounted in a standard wall-mount enclosure (**NISCAB-3**) adjacent to the control panel or the monitored equipment. Two connections are required to enable the NION-16C48M to establish communications: the UniNet™ via an appropriate SMX transceiver, and power. Power is provided by a 24 VDC power supply with battery backup. This power supply requires 110 VAC primary power. Standard screw terminals are used for connecting wiring from monitored equipment. Input and output configuration is accomplished by setting on-board jumpers. One or two 16C48MTB mounting termination boards are required (*not included*).

SPECIFICATIONS

- Underwriters Laboratories Listed as a component of a UL 864 and UL 1076 Proprietary Receiving System.
- **Powered from** a 24 VDC power supply (**MPS-24BRB**, with **4000TA**; *order separately*) with battery backup (up to 17 AH battery).
- **Power supply requirements:** 24 VDC @ 500 mA (maximum).
- **Communicates** on LonWorks™-based **FT-10** or **FO-10** network operating over twisted-pair wiring or fiber-optic cable.
- **Operating temperature range:** 0°C to 49°C (32°F to 120°F).
- **Storage temperature range:** -40°C to +80°C (-40°F to +176°F).
- **Accepts** up to 48 inputs and 16 outputs in any combination.
- **Each input** is four-state supervised or two-state unsupervised and can be configured for normally open or normally closed operation.
- **Eight optional switched voltage inputs**, each configurable to the following ranges: 5 VDC, 12 VDC, 30 VDC, 60 VDC.
- **Outputs are SPDT relays** rated at 5 A @ 30 VDC and can be configured for normally open or normally closed operation.
- **Connections** via standard screw terminals.
- **Mounts** in 16-gauge sheet metal enclosure 14.5" (36.83 cm) wide x 17" (43.18 cm) high x 5" (12.7 cm) deep (**NISCAB-3**, *order separately*).

ORDERING INFORMATION

For 48 inputs and 16 outputs, order the following:

- One **NION-16C48M**.
- One SMX transceiver (**FTXC**, **S7FTXC**, **FOXC**, or **DFXC**).
- One interface protocol (**EP-16C48M-FT** or **EP-16C48M-DF**).
- One or two 24-input/8-output mounting termination boards (**16C48MTB**). Two are required for complete 16-output/48-input configuration; order separately.
- One cabinet (**NISCAB-3**); order separately.
- One power supply (**MPS-24BRB** with **4000TA**); order separately.

For 48 inputs and NO outputs, order the following:

- One **NION-48M**.
- One SMX transceiver (**FTXC**, **S7FTXC**, **FOXC**, or **DFXC**).
- One interface protocol (**EP-48M-FT** or **EP-48M-DF**).
- One or two 24-input mounting termination boards (**48MTB**). Two are required for complete 48-input configuration; order separately.
- One cabinet (**NISCAB-3**); order separately.
- One power supply (**MPS-24BRB** with **4000TA**); order separately.

Product descriptions:

NION-16C48M: General-purpose network input/output node, provides 48 inputs for dry contacts and 16 SPDT relay outputs.

16C48MTB: 24-input/8-output mounting termination board. Two required for complete 16-output/48-input configuration; *order separately*.

NION-48M: Same as above but *without relays*.

48MTB: 24-input mounting termination board. Two required for complete 48-input configuration; *order separately*.

FTXC: SMX transceiver, network media interface for NION, for wire-based FT-10 topology.

S7FTXC: SMX transceiver, network media interface for NION, for **Style 7** wire-based FT-10 topology.

FOXC: SMX transceiver, network media interface for NION, for fiber-optic-based FT-10 topology.

DFXC: SMX transceiver, network media interface for NION, for bidirectional fiber-optic-based FO-10 topology.

EP-16C48M-FT: NION-16C48M interface protocol for FT-10 and point-to-point fiber-optic media.

EP-16C48M-DF: NION-16C48M interface protocol for bidirectional fiber-optic media.

EP-48M-FT: NION-48M interface protocol for FT-10 and point-to-point fiber-optic media.

EP-48M-DF: NION-48M interface protocol for bidirectional fiber-optic media.

NISCAB-3: 16-gauge sheet metal enclosure 14.5" (36.83 cm) wide x 17" (43.18 cm) high x 5" (12.7 cm) deep; *order separately*.

MPS-24BRB, with 4000TA: 24 VDC power supply; *order separately*.