

Local Expansion Network Output Module (LEN-0) Installation Instructions



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Description

Novar Controls' Local Expansion Network Output Module (LEN-O) is part of Novar Controls' Logic One[®] Building Management System. It is connected directly to the local expansion network of an Input/Output Module (IOM/2), which must be connected to an IOM/2, and is used to provide eight additional outputs for control of basic time-of-day scheduling functions.

A maximum of three local expansion network modules (LEN-O, Local Expansion Network Input Module [LEN-I1/ME], or a combination of the two) can be connected to one IOM/2.

Specifications

Power Requirements

Voltage: 24-VAC, Class 2
Consumption: 20-VA

NOTE! The LEN-O does not require a dedicated transformer. The transformer can be shared with other Novar Controls modules.

Operating Environment

Temperature: 32° to 158°F (0° to 70°C)
Humidity: 0 to 95% Relative, noncondensing

Physical Dimensions

Width: 14 inches
Height: 4 inches
Depth: 1.5 inches
Weight: 1 lb 2 oz

Relay Output Rating

24-VAC, 72-VA, pilot duty, Class 2 each

Fuse Rating

2 Amps

Precautions

Take the following precautions during installation:

- Observe all national and local electrical codes.
 - Do *not* ground the transformer for this module on the secondary side.
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Mounting the Module

The LEN-O should be mounted near the IOM/2 to which it is to be connected. The module consists of a circuit board mounted to a plastic snap track. Do *not* remove the circuit board from the plastic track.

Use the following procedure to mount the module.

Step	Procedure
1	Turn off all power to the IOM/2 before mounting the LEN-O Module.
2	Select a suitable location for the module.
3	Position the snap track against the mounting surface, mark the surface to show the location of the two mounting holes, and drill holes in the locations marked.
4	Position the module against the snap track and insert and tighten screws to secure the module.

Wiring Connections

Refer to Figure 1, as necessary, when wiring the LEN-O.

Control Outputs

Each output can be wired to the normally open or normally closed terminal, depending on system requirements.

NOTE! Because the outputs are software-definable, the wiring scheme must match the software configuration.

The output status light-emitting diodes (LEDs) are located to the left of the relays on the LEN-O. The status of an LED depends on the status of its relay coil.

- If the relay coil is energized, the LED is on.
- If the relay coil is not energized, the LED is off.

The corresponding load status depends on whether the connection is wired to the normally open or normally closed terminal.

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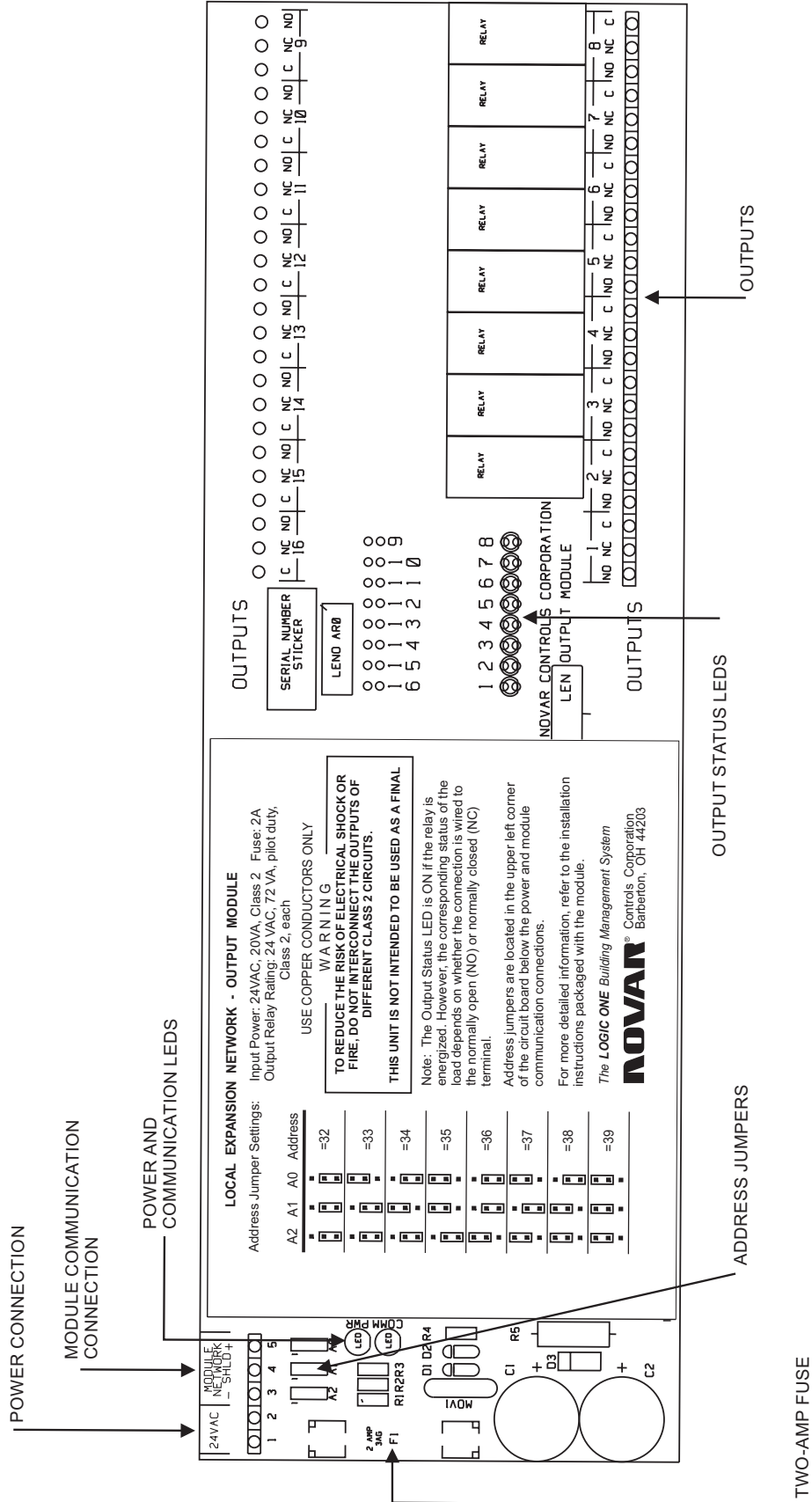


Figure 1. Local Expansion Network Output Module (LEN-O)

Local Expansion Network Output Module (LEN-O) Installation Instructions

Module Communication Network

A two-conductor shielded cable (Belden #8761, Novar Controls WIR-1010, or equivalent) should be used to make the communication connection between the LEN-O and the IOM/2.

The module communication connection is located in the upper left corner of the circuit board, next to the power connection. There is a communication LED located below the module communication connection that should blink on and off intermittently when the power is turned on and normal communication is occurring. If the LED does not blink, there is a communication loss.

Use the following procedure to make the connections.

Step	Procedure
1	Connect the positive (+) wire from the LEN-O to the IOM/2 at Terminal 3 (+).
2	Connect the shield wire from the LEN-O to the IOM/2 shield (Terminal 2).
3	Connect the negative (-) wire from the LEN-O to the IOM/2 at Terminal 1 (-).

Power Connection

The 24-VAC power connection is located in the upper left corner of the circuit board, next to the module communication connection. The power LED located below the power connection should be on when power to the system is turned on.

A 2-amp fuse is provided on the LEN-O circuit board to protect the module electronics. The fuse can be removed to turn off the power to the module.

Setting the Module Address

Each local expansion network module must have a unique address so the IOM/2 can identify it. The LEN-O addresses range from 32 to 39.

The A2, A1, and A0 address jumpers are located below the power and communication connections on the circuit board. Each has three pins that can be set as shown in Figure 2.

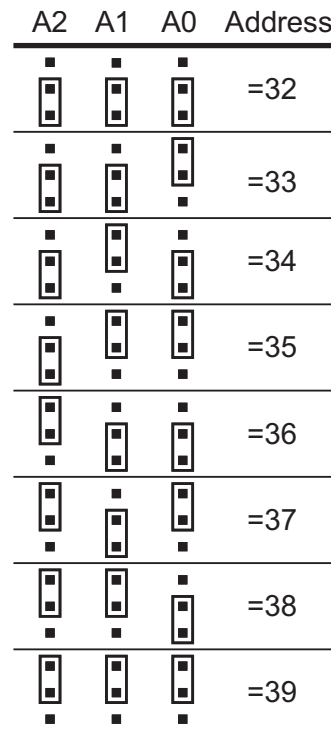


Figure 2. Setting the LEN-O address

Checking Operation

When the module has been mounted and all wiring connections have been completed, the following items should be checked to ensure proper operation.

- Check all wiring before turning on the power to make sure the connections are correct and secure.
- Connect the IOM/2 and turn on the power to the system. Observe the communication LED for an intermittent blinking to verify proper communication.
- Check the executive module for alarm messages indicating faults or malfunctions. Use the executive module's keypad and display to change the control settings and monitor the system for proper equipment response.

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Model and Part Numbers

Use the model numbers provided in Table 1 to order the necessary Novar Controls parts.

Table 1. Novar Controls Part Numbers	
PRODUCT	MODEL NUMBER
Local Expansion Network Output Module	LEN-O
Two-conductor shielded cable (Belden #8761 equivalent)	WIR-1010
