

Local Expansion Network Input Module (LEN-I1/ME) Installation Instructions

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Description

The Local Expansion Network Input Module (LEN-I1/ME) for Novar Controls Corporation's Logic One[®] Building Management System connects directly to the local expansion network of an IOM/2 (which must be connected to an EP/2 or Savvy). It is used to provide eight analog (4–20 mA or 1–5 volt) inputs for monitoring and alarms.

This document provides instructions for mounting the LEN-I1/ME, wiring it, setting its address, and checking its operation.

Specifications

Power Requirements

Voltage: 24 VDC
Current: 100 mA (plus 20 mA for each input used)

Operating Environment

Temperature: 32° to 120°F (0° to 49°C)
Humidity: 0 to 95% Relative, noncondensing

Physical Dimensions

Length: 16.6 inches
Width: 2.75 inches
Depth: 1.3 inches
Weight: 1 lb 5 oz

Precautions

Take the following precautions during installation:

- Observe all national and local electrical codes.
- Make sure that the 24-VDC power source is isolated from other devices if it is going to power multiple LEN-I1/MEs.
- Use current limiters (Novar Controls Part No. 680002000 must be ordered separately).

NOTE! All 4–20 mA inputs *require* current limiters.

Mounting the LEN-I1/ME

The LEN-I1/ME can be mounted to a wall or in a control panel with other Logic One components.

NOTE! Although the LEN-I1/ME's design protects it from some environmental conditions, the LEN-I1/ME is not waterproof. Mount the module in a dry location.

Local Expansion Network Input Module (LEN-I1/ME) Installation Instructions

Use the following procedure and refer to Figure 1, as necessary, to mount the LEN-I1/ME.

Step	Procedure
1	Position the metal case against the mounting surface and mark the surface to show the location of the two mounting holes.
2	Drill holes where the mounting surface was marked.
3	Place the module against the mounting surface and insert and tighten the appropriate type of screws to secure the module.

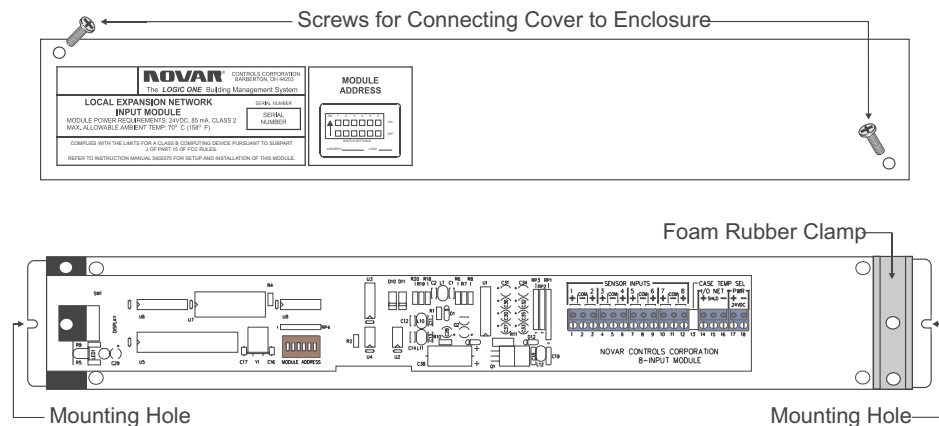


Figure 1. Mounting the LEN-I1/ME

Wiring the LEN-I1/ME

Use the following procedure and refer to Figure 2, as necessary, to wire the LEN-I1/ME:

Step	Procedure
1	Remove the two screws in opposite corners of the cover and remove the cover.
2	Remove the screw holding the foam rubber clamp at the right end of the module. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>NOTE! When the wiring is completed, the foam rubber clamp and its screw must be returned to their original position to protect the circuit board from environmental conditions. The cover must be put back on the enclosure.</p> </div>

Because the inputs are software-definable, the wiring scheme must match the software configuration. Figure 2 shows the locations of the wiring terminals. An example of wiring the LEN-I1/ME is shown in Figure 3.

Local Expansion Network Input Module (LEN-I1/ME) Installation Instructions

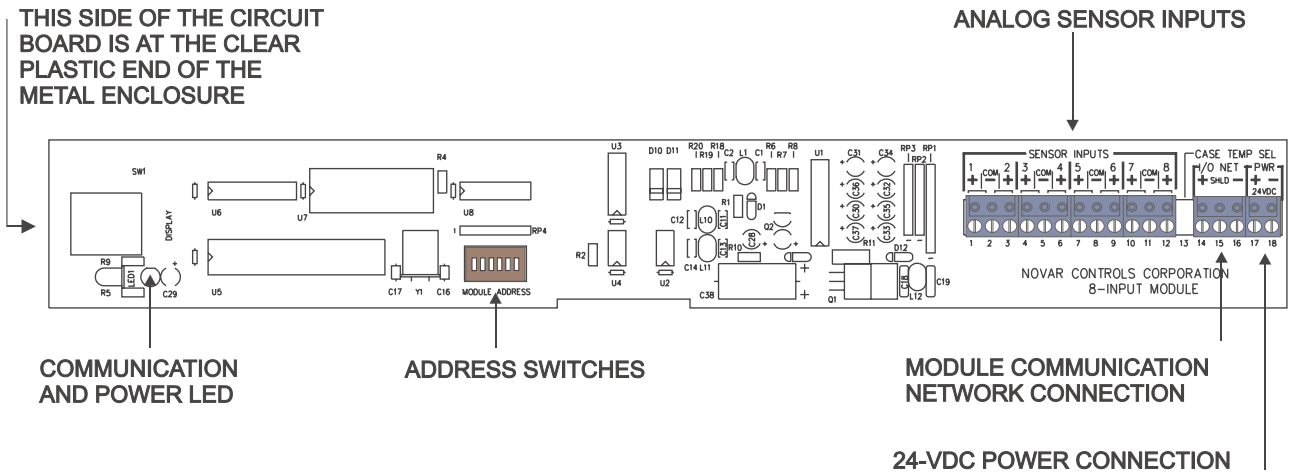


Figure 2. LEN-I1/ME circuit board

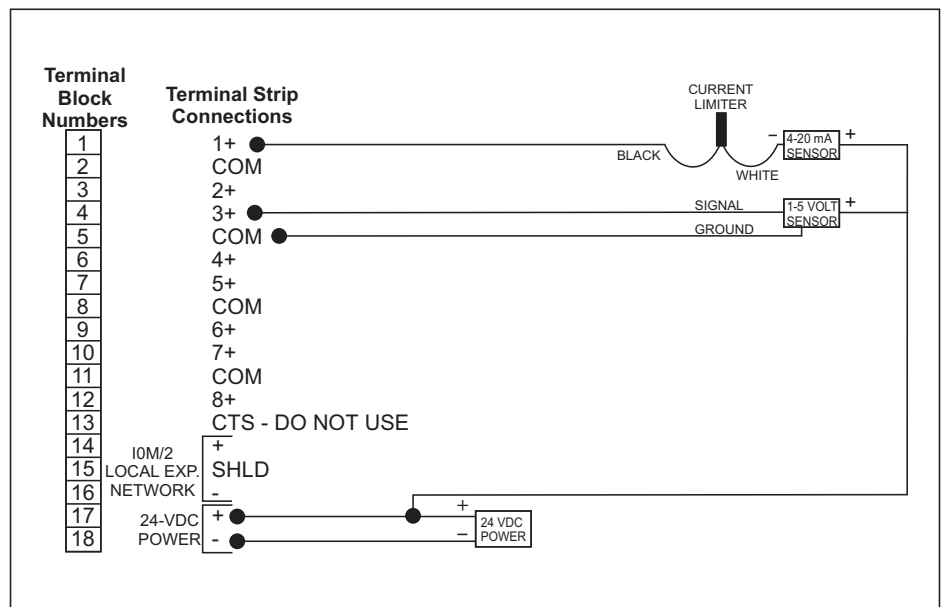


Figure 3. LEN-I1/ME wiring diagram

Sensor Inputs

The LEN-I1/ME has eight inputs available for connecting sensors. This module is designed to be used with 4–20 mA or 1–5 volt analog sensors.

NOTE! Current limiters (Novar Controls Part No. 680002000) must be used on all 4–20 mA. See the wiring diagram in Figure 3.

NOTE! To use a 1–5 volt sensor, cut and remove the 250-ohm resistor connected to the input terminal strip on the back of the board (one resistor for each input). Make sure that the resistor is only removed from those inputs to which a 1–5 volt sensor is being connected.

Local Expansion Network Input Module (LEN-I1/ME) Installation Instructions

Module Communication Network

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

Use the following procedure to make the communication connections from the LEN-I1/ME terminals (labeled I/O Net) to the IOM/2's local expansion network terminals (labeled Local Expansion Network). Use two-conductor shielded cable (Belden #8761, Novar Controls WIR-1010, or equivalent).

Step	Procedure
1	Connect the positive (+) wire from the LEN-I1/ME Terminal 14 to the IOM/2 positive terminal (Terminal 3).
2	Connect the shield wire from the LEN-I1/ME Shield Terminal (Terminal 15) to the IOM/2 Shield (Terminal 2).
3	Connect the negative (-) wire from the LEN-I1/ME Terminal 16 to the IOM/2 negative (Terminal 1).

There is a communication LED located near the left end of the circuit board (see Figure 2) that should blink intermittently when the power is turned on and proper communication is occurring. If the LED does not blink, there is a loss of communication and/or power.

Power Connection

Connect the LEN-I1/ME to a 24-VDC power source that will support a 100-mA load to power the LEN-I1/ME and a 20-mA load for each input used. For example, if all eight LEN-I1/ME inputs are being used, the power source would need to support 260 mA.

Multiple LEN-I1/MEs can be powered by a single 24-VDC power source within the current limits, but the power source should be isolated from other devices. If a separate cable is used for the power connection (see "Module Communication Network" above), two-conductor 18-gauge cable is recommended.

Setting the Module Address

Every Logic One module must have a unique address for the executive module to identify it. Addresses are assigned in the software during system programming. Use the system printout to find the address of the LEN-I1/ME being installed.

Refer to Figure 4 and set the switches with the correct address from 40 to 63. For future reference, record the address setting on the address label located on the metal enclosure.

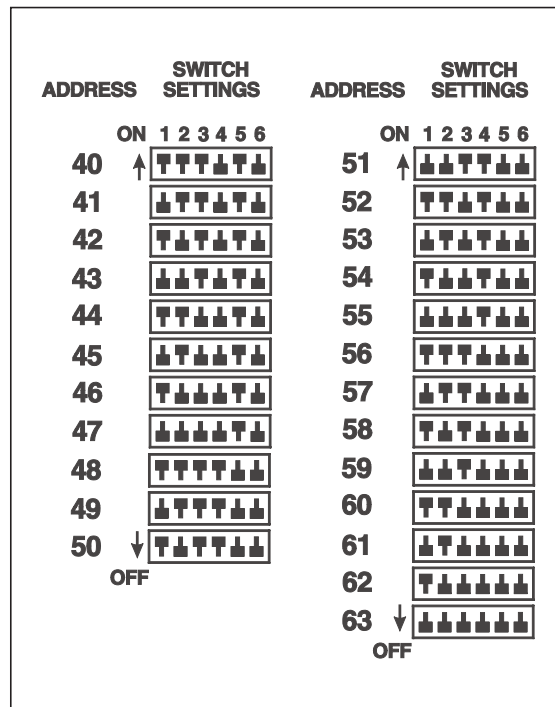


Figure 4. LEN-I1/ME address settings

Checking Operation

When the installation is completed, check the following items to ensure proper operation.

- Double check all wiring before turning on the power.
- Turn on the power and check the communication LED. It should be blinking if communication is occurring.
- Monitor the executive module's display. Use the keypad to change the control settings to see if the equipment responds properly.

Local Expansion Network Input Module (LEN-I1/ME) Installation Instructions

Model and Part Numbers

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

Table 1. Novar Controls Part Numbers		
PRODUCT	MODEL NO.	PART NO.
Local Expansion Network Input Module with metal enclosure	LEN-I1/ME	737601000
Current Limiters (required)	—	680002000
Two-conductor cable (Belden #8761 equivalent)	WIR-1010	709001000
