

8-IME Installation Instructions



Regulatory Compliance

Safety

This device has been tested and found to be in compliance with the requirements set forth in UL 916, Energy Management Equipment, and is listed by Underwriters Laboratories, Inc., for installations in the United States.

This device has been tested and found to be in compliance with the requirements set forth in C22.2, No. 205-M1983, Signal Equipment, and is Certified by Underwriters Laboratories, Inc., for installations in Canada.

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Description

The 8-Input Module (8-IME) is a Logic One[®] module that provides eight additional analog and/or digital inputs for system use and alarms. It comes in a metal case that protects it from some environmental conditions and can be connected directly to an executive module.

This document provides instructions for mounting, wiring, setting the module address, and checking the operation of the module.

Specifications

Agency Approvals

Listed device:	CUL/UL E90949
Standards used:	UL 916, Energy Management Equipment CSA C22.2, No. 205-M1983, Signal Equipment

Power Requirements

Voltage:	24 VDC, Class 2
Current:	100 mA

Operating Environment

Temperature:	32° to 158°F (0° to 70°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 the power source is isolated from other devices if multiple 8-IMEs are powered by a single 24-VDC power source within current limits.
 - Use current limiters (order separately; Novar Controls Part No. 680002000) with all 4- to 20-mA and digital inputs.
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Mounting the 8-IME

The 8-IME can be mounted to a wall or in a control panel with other Logic One components. When mounting the module to paneling or drywall, use hollow-wall anchors to make certain that the assembly is secure.

Use the following procedure and refer to Figure 1, as necessary, to mount the module.

NOTE!

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Although the 8-IME's design protects it from some environmental conditions, it is *not* waterproof. Mount the module in a dry location.

Step	Procedure
1	Position the metal case against the mounting surface and mark the surface to indicate the location of the two mounting holes.
2	Drill holes in the marked locations and, if necessary, insert hollow-wall anchors.
3	Place the module against the mounting surface and insert and tighten appropriate screws to secure the module.

Wiring the Module

Use the following procedure and refer to Figure 1, as necessary, to prepare the module for wiring.

Step	Procedure
1	Take off the cover of the enclosure by removing the two screws at corners of the cover.
2	Remove the screw holding the foam rubber clamp (see Figure 1) at the right end of the module. <hr/> NOTE! This clamp allows the wires to pass through but helps protect the circuit board from environmental conditions. The clamp <i>must</i> be returned to its original position once the wiring has been completed. <hr/>

The inputs are software-definable. The wiring scheme *must* match the software configuration.

The location of the wiring terminals is shown in Figure 2. Figure 3 provides a wiring diagram.

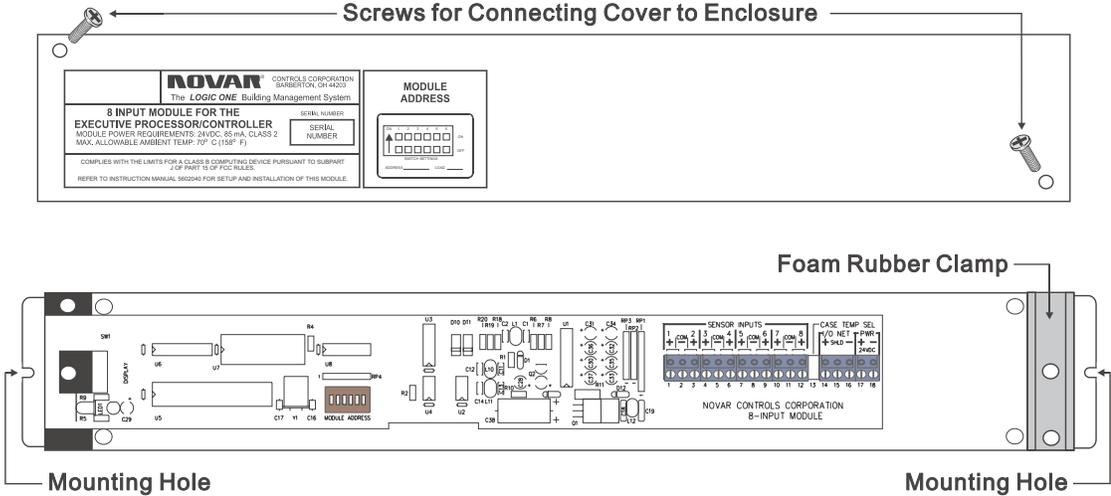


Figure 1. Mounting the 8-IME

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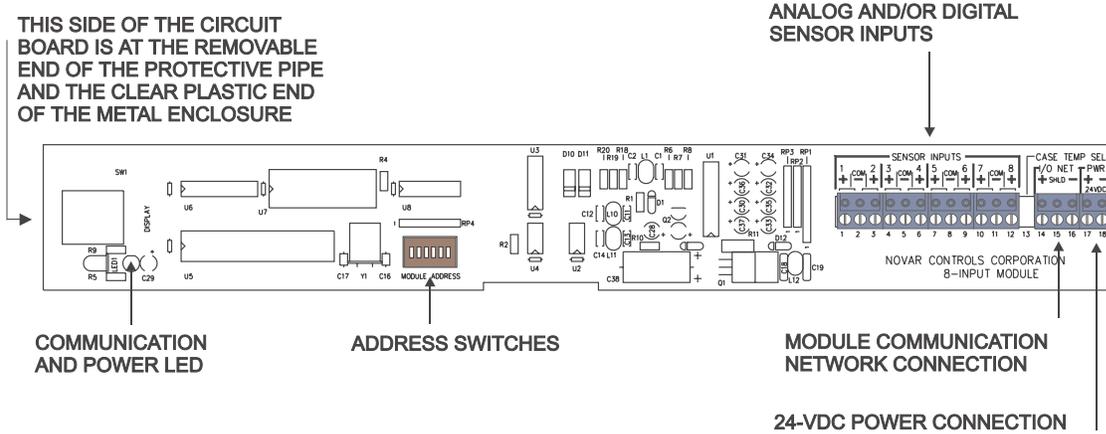


Figure 2. 8-IME circuit board

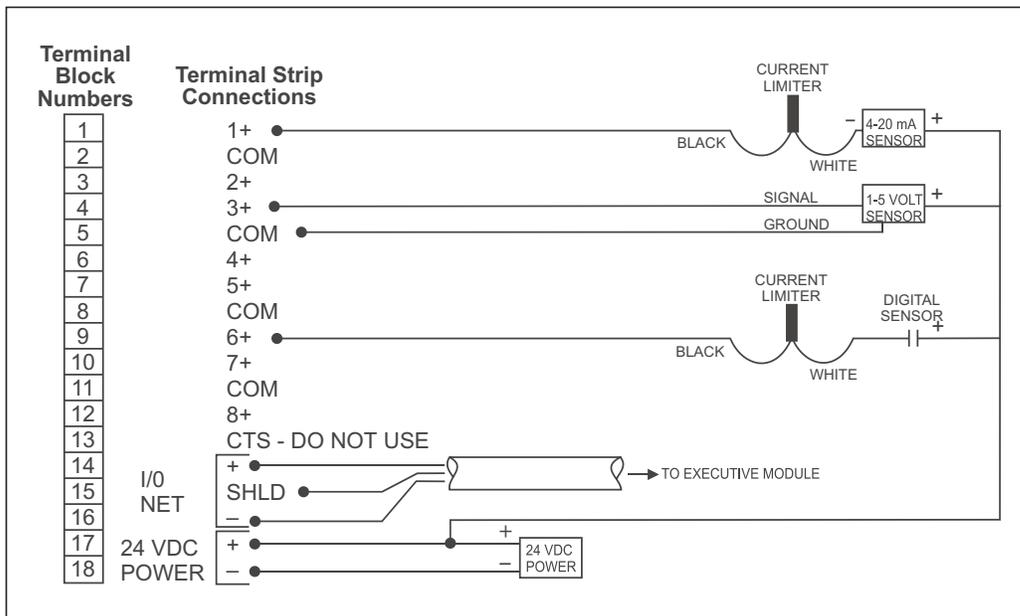


Figure 3. Wiring diagram

Sensor Inputs

There are eight available inputs on the 8-IME for connecting sensors. This module is designed to be used with 4- to 20-mA or 1- to 5-volt analog sensors or with dry contact closures.

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

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

Module Communication Network

Combine the power and communication network connections into a single four-conductor shielded cable (Belden 9155, Novar Controls WIR-1020, or equivalent) to make the connection between the 8-IME and the executive module. If separate cables are used, use a two-conductor shielded cable (Belden 8761, Novar Controls WIR-1010, or equivalent) for the communication wiring.

- EP/2 and Lingo[®]

Make the connection at either the A Module or B Module Network Communication terminals.

- EC or Savvy[®]

Make the connection at the Module Network terminals.

The module communication connection on the 8-IME is labeled I/O Net and is located next to the power connection. There is a communication LED located next to the LED status display that should blink on intermittently when the power is turned on and proper communication is occurring. If the LED does not blink on, there is a loss of communication and/or power.

Power Connection

Connect the 8-IME to a 24-VDC power source that will support a 100-mA load to power the 8-IME and a 20-mA load for each input used. For example, if all eight inputs are being used on the 8-IME, the power source would need to support 260 mA.

Multiple 8-IMEs 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 cable is recommended.

Address Settings

Every Logic One module must have a unique address for the executive module to identify it. Addresses are assigned in the software during system formatting. The system printout shows the address of the 8-IME being installed.

The address switches are located on the left side, near the center of the circuit board (see Figure 2). Set the switches with the correct address from 00 to 63 (see Figure 4) and record the setting on the module address label.

NOTE! Address 00 may not be used by the 8-IME/ME when operating on an EC or Savvy. (The IOM section uses address 00.)

The EP/2 is designed to accept module addresses from 00 to 127 for any type of Logic One module. Address settings 64–127 duplicate the sequence of settings shown in Figure 4 (address setting 64 is the same as address setting 00, etc.)

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The EP/2 would require a Network Expander to communicate with addresses 64–127. Only unitary controllers can be connected to the Network Expander. More information about setting addresses 64–127 can be found in the *Novar Controls Network Expander Module Installation Instructions* (Doc. No. 560092000). When connecting additional modules to the EP/2, remember not to exceed the 128-input or 128-output limits.

ADDRESS	SWITCH SETTINGS						
00	ON ↑ 1 2 3 4 5 6 TTTTTT	16	ON ↑ 1 2 3 4 5 6 TTTTTT	32	ON ↑ 1 2 3 4 5 6 TTTTTT	48	ON ↑ 1 2 3 4 5 6 TTTTTT
01	TTTTTT	17	TTTTTT	33	TTTTTT	49	TTTTTT
02	TTTTTT	18	TTTTTT	34	TTTTTT	50	TTTTTT
03	TTTTTT	19	TTTTTT	35	TTTTTT	51	TTTTTT
04	TTTTTT	20	TTTTTT	36	TTTTTT	52	TTTTTT
05	TTTTTT	21	TTTTTT	37	TTTTTT	53	TTTTTT
06	TTTTTT	22	TTTTTT	38	TTTTTT	54	TTTTTT
07	TTTTTT	23	TTTTTT	39	TTTTTT	55	TTTTTT
08	TTTTTT	24	TTTTTT	40	TTTTTT	56	TTTTTT
09	TTTTTT	25	TTTTTT	41	TTTTTT	57	TTTTTT
10	TTTTTT	26	TTTTTT	42	TTTTTT	58	TTTTTT
11	TTTTTT	27	TTTTTT	43	TTTTTT	59	TTTTTT
12	TTTTTT	28	TTTTTT	44	TTTTTT	60	TTTTTT
13	TTTTTT	29	TTTTTT	45	TTTTTT	61	TTTTTT
14	TTTTTT	30	TTTTTT	46	TTTTTT	62	TTTTTT
15	TTTTTT OFF ↓	31	TTTTTT OFF ↓	47	TTTTTT OFF ↓	63	TTTTTT OFF ↓

Figure 4. Setting the address for the 8-IME

Checking Operation

When the installation has been completed, check the following items to make sure that the 8-IME is operating properly.

- Double check all wiring before turning on the power.
- Supply power to the system and check the communication LED. If proper communication is taking place, it should blink intermittently.
- Check the executive module for alarm messages indicating faults or malfunctions. Use the executive module's keypad and display to monitor the system. Change the control settings and check the equipment's response.

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.
8-Input Module with metal enclosure	8-IME/ME	733031000
Current limiters	680002000	680002000
Four-conductor cable (Belden #9155 equivalent)	WIR-1020	709002000
Two-conductor cable (Belden #8761 equivalent)	WIR-1010	709001000