

**INSTALLATION INSTRUCTIONS FOR PACKAGED UNITS  
 EQUIPPED WITH AN IMC CONTROLLER**

**General**

These instructions are intended as a general guide and do not supersede local codes in any way. Authorities having jurisdiction should be consulted prior to installation.

**Application**

Use these instructions when installing communication wiring on LG/LC/LH and SG/SC rooftop units when a Novar LSE gateway unit is used. This requires IMC M1-7, version 5.03 or higher.

The LSE (Logic One® System Enhancer), gateway must be purchased from Novar.

Lennox environmental sensors are to be connected to the IMC controllers (see figure 4 for wire connections). The zone temperature sensor (A2) is required; the CO<sub>2</sub> (IAQ) sensor (A63) and the RH (relative humidity) sensor (A91) are optional.

The use of L Connection® Network software via modem or Ethernet converter is recommended for remote monitoring, configuring, and troubleshooting remote rooftop units.

**⚠ WARNING**

**Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer or service agency.**

**Communication Cable Requirements**

Depending on the application, use one of the communication wire types (standard or plenum) shown in table 1.

**Table 1. Communication Wire Types**

Standard type	Plenum type
<b>Belden 8761 or equivalent</b> UL type 2092, 22 AWG stranded (7x30) tinned copper conductors, polyethylene insulation, one twisted pair, 22 AWG stranded tinned copper drain wire, polyvinyl chloride (PVC) jacket, overall aluminum-polyester shield, 60°C, 300V	<b>Lennox p/n 27M19, 94L63, 68M25; Belden 88761 or equivalent</b> NEC725 Class 2 (classified for use in an air plenum non-conduit), 22 AWG stranded (7x30) tinned copper conductors, plenum, Teflon® insulation, one twisted pair, polyester separator tape, 22 AWG stranded tinned copper drain wire, Teflon® jacket, overall aluminum-polyester shield, 200°C, 150V <small>Teflon® is a registered trademark of E. I. duPont de Nemours and Co.</small>

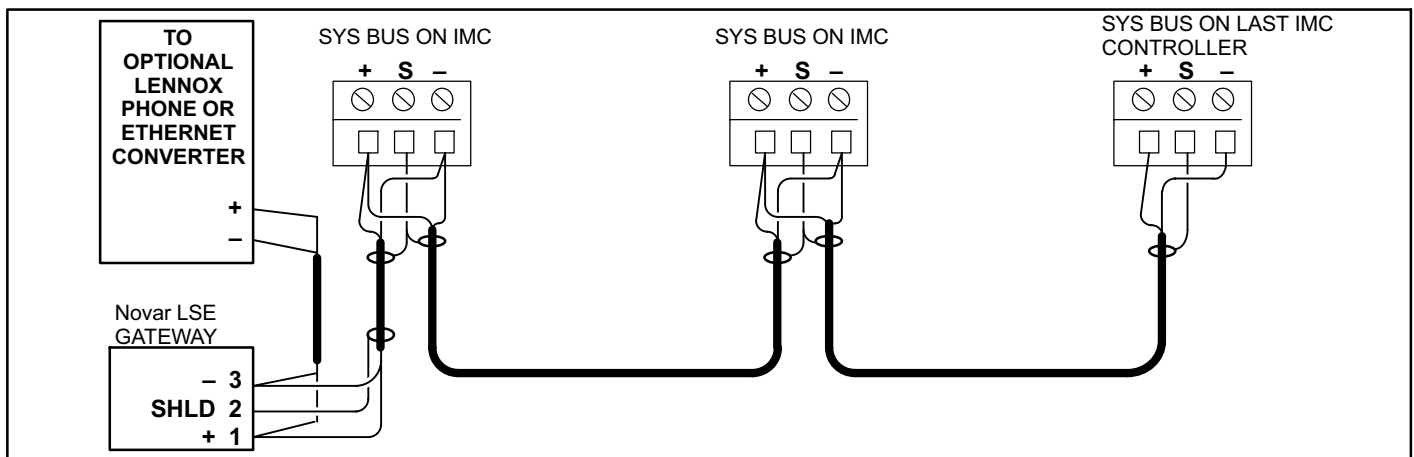
**Wiring the unit**

All wiring must be in accordance with national electric codes and local codes.

1. Route communication wiring between the IMC controller and the Novar LSE gateway.
2. Make wire connections as shown in figures 1 and 4. When more than one IMC controller is used in the same network, daisy-chain the communication wires to other IMC SYS BUS terminal blocks.

*NOTE - Make sure the total run of communication wiring does not exceed 4000 feet.*

3. If optional Lennox remote access phone modem or Ethernet converter is used, wire it to the network and to the Novar LSE gateway connection as shown in figure 1.



**Figure 1. Network Daisy-Chain Communication Wiring**



## Network Set-Up

### Address DIP Switches

Assign a different address to each IMC. The value of the five switches on the address DIP switch are labeled on the IMC printed circuit board (1, 2, 4, 8, or 16). The address is the sum of the values of the five switches set to the ON position. See figure 2.

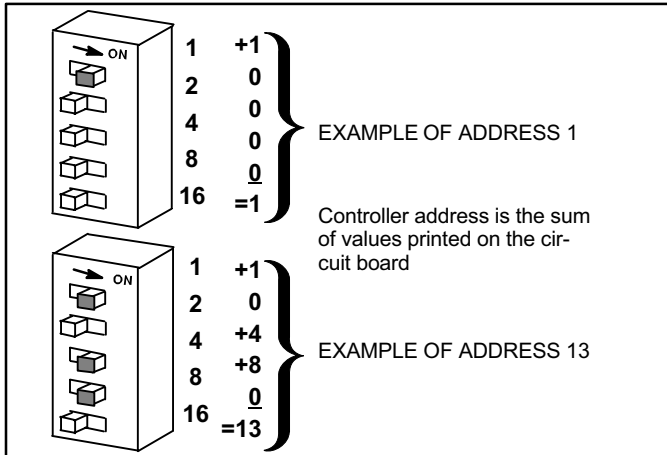


Figure 2. Address DIP Switch

### IMC Controller Configuration

The IMC controller must be set to operate in the zone sensor mode and must have a non-adjustable zone sensor connected. (For further details, refer to the IMC Guide.)

Change the ECTO parameter 6.01 to "3" to configure the IMC to operate in the zone sensor mode. This configuration uses the unit return air sensor RT16 as a back-up sensor should the zone sensor fail.

In addition, set ECTO 6.17 Blower Control Mode parameter to "1" for continuous blower applications.

If an A91 humidity sensor is used, ECTO 4.24 must be set to "4" for monitoring relative humidity.

If the unit is equipped with an economizer (EM1), the A56 board may need to be configured to enable remote operation. The DIP switch should be set to TMP. See figure 3.

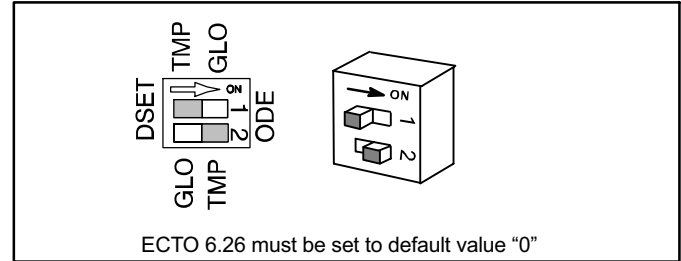


Figure 3. TMP Mode (Sensible Temperature)

If an A63 CO<sub>2</sub> sensor is connected to the unit and is used only for monitoring purposes (no local Demand Control Ventilation operation), then ECTO parameter 5.16 should be set to 0 (zero).

### Support

To request information or receive technical support regarding the gateway, contact your local Novar service representative, or call (800) 348-1236.

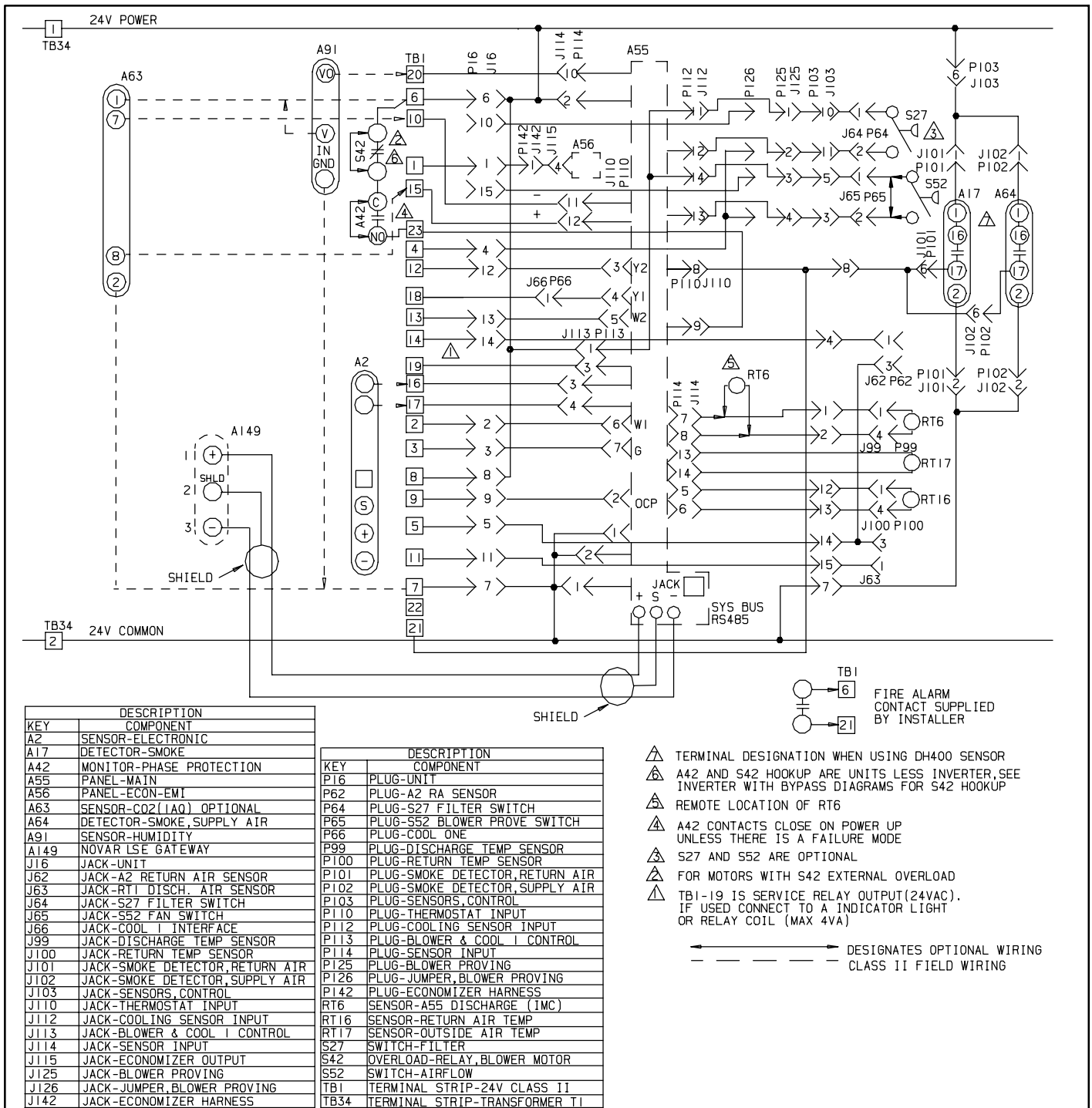


Figure 4. Typical Interface Wiring Schematic