

COM1100 N2 Communication Module

The COM1100 N2 Communication Module is an add-on module for small controllers requiring N2 networking to systems, such as the Unitary (UNT) controller to the Metasys® system. The module provides networking capabilities for FX10, UNT400 Series, and UNT10XX Series controllers that are specific to the needs of Original Equipment Manufacturers (OEMs). The COM1100 plugs in to the controller using a 12-pin connector (2 x 6-pin connector header) and four holes for standoff placement. An 8-position DIP switch provides N2 Addressing. The module has transmit and receive data optocouplers that provide isolation from noise and transients.

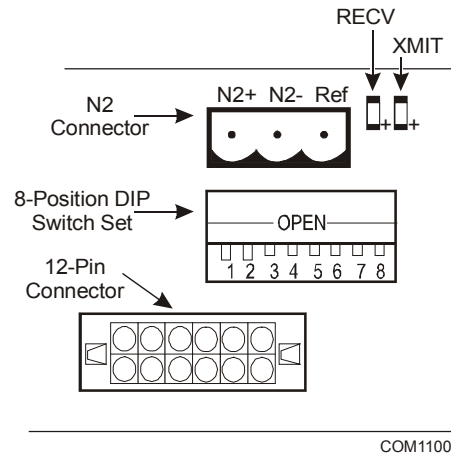


Figure 1: COM1100 N2 Communication Module

COM1100 N2 Communication Module

Use the COM1100 N2 Communication Module on controllers requiring communication over the N2 Bus. You can use the COM1100 on the following controllers:

- FX10 controllers
- UNT400 Series (YK-UNT40X-2) controllers
- UNT10XX Series (AS-UNT1008, AS-UNT1026, and UNT1044) controllers

For information on setting up N2 networks, refer to the *N2 Communications Bus Technical Bulletin (LIT-636018)*. The *Design Considerations* section defines N2 Bus rules.

N2 Bus Connection

The N2 connector (three-screw terminal header) provides the N2 Bus connection for the controller. This connector provides space for attaching the two N2 wires using a small flat-blade screwdriver. Figure 1 shows the location of the N2 connector on the COM1100 module.

N2 Addressing

The 8-position DIP switch allows you to set a unique N2 address (1-254) for the controller on the N2 Bus. Figure 1 shows the location of the DIP switch on the COM1100 module. The setting on the N2 address switches is in binary format. Table 1 indicates the decimal equivalent of the switch numbers.

For example, if the first DIP switch (1) and the fifth DIP switch (16) are both set to ON, the N2 address for that controller is 17 (1 + 16 = 17). Addresses 0 and 255 are invalid for this application.

Table 1: Address Format

Switch Number	1	2	3	4	5	6	7	8
Decimal Equivalent	1	2	4	8	16	32	64	128

Light-Emitting Diodes (LEDs)

Two LEDs indicate the operation of the transmit (XMIT) and receive (RECV) circuits on the COM1100 module. These LEDs light up when transmitting or receiving data. Figure 1 shows the location of the LEDs on the COM1100 module.

Mounting and Wiring

The COM1100 module connects to the controller and network as follows (See Figure 2.):

- three-screw terminal header to connect to the N2 Bus
- eight-position DIP switch for N2 addressing
- twelve-pin connector (2 x 6 header) to connect to the controller
- four holes for the controller's standoffs

Mounting

To mount the COM1100 onto the controller:

Note: Once the communication module is installed, it is difficult to remove it without damaging the controller standoffs.

1. Turn off power to the controller and remove its cover (if required).

Note: The COM1100 is not hot pluggable; therefore, turn off the power before attaching the module to the host unit.

2. Align the 12-pin connector with the bottom entry holes while aligning the standoff holes with the controller's standoffs. See Figure 2. To do this, tilt the COM1100 slightly downward near the corner containing the 12-pin connector and insert the nearest standoff into the standoff hole. Align and insert the 12-pin connector.

Note: The 12-pin (2 x 6 pin) connector header connects from the bottom.

3. Press the board onto the three remaining mounting standoffs on the controller and snap the module firmly into place.
4. Set the N2 Address DIP switches to a unique address on the N2 Bus. Refer to Table 1 for details on address format.
5. Replace the controller's cover (if required).
6. Connect the COM1100 to the N2 Bus by following the instructions in the *Wiring* section of this document.

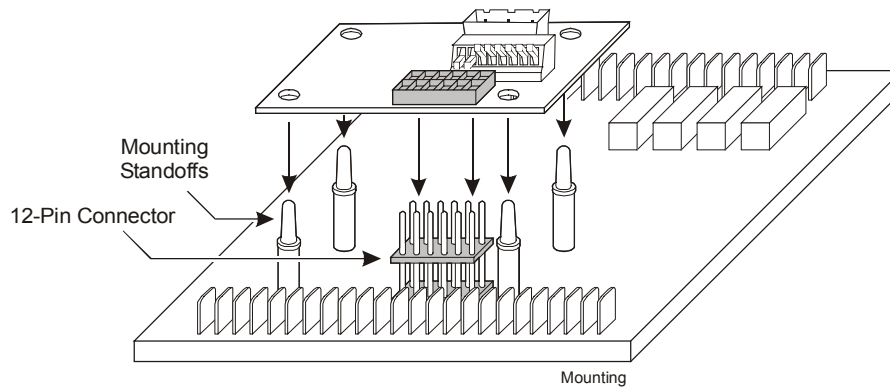


Figure 2: Mounting the COM1100 Module

Wiring

Complete the *Mounting* instructions and replace the controller's cover before continuing with the wiring step. Wire the COM1100 to the N2 Bus as indicated in Figure 3. For more information, refer to the *N2 Communications Bus Technical Bulletin (LIT-636018)*.

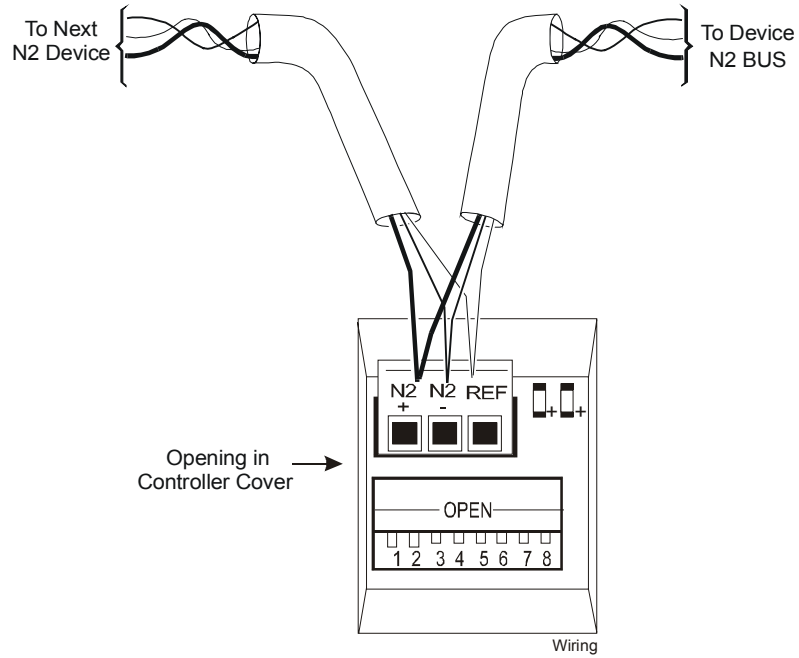


Figure 3: Wiring the COM1100 Module

Technical Specifications

Product	COM1100 N2 Communication Module (AS-COM1100-0)
Power Requirements	+5 VDC, $\pm 10\%$
Ambient Operating Conditions	-40 to 70°C; (-40 to 158°F), 5 to 99% RH
Ambient Storage Conditions	-40 to 85°C; (-40 to 185°F), 5 to 99% RH
Fault Tolerance	The unit can withstand a short circuit of any of the three communication lines to ground, to each other, or to 24 VAC.
Terminations	Three-position 90° screw terminals
Communications Bus	N2 Bus Refer to the <i>N2 Communications Bus Technical Bulletin (LIT-636018)</i> for details.
N2 Controller Addressing	Eight-position DIP switch set (1-254) Addresses 0 and 255 are invalid for this application.
Dimensions (L x W x H)	118 x 107 x 56 mm (4.6 x 4.2 x 2.2 in.)
Shipping Weight	0.14 kg (0.31 lb)
Mounting	Plugs onto 12-pin header and four standoffs.
Agency Listings	UL Listed, CSA Certified, and CE Mark FCC: CFR 47 Part 15 Class B UL: UL 864, UL 916, UL 873 CSA: C22.2 No. 205 IEEE 587 Category A

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.



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