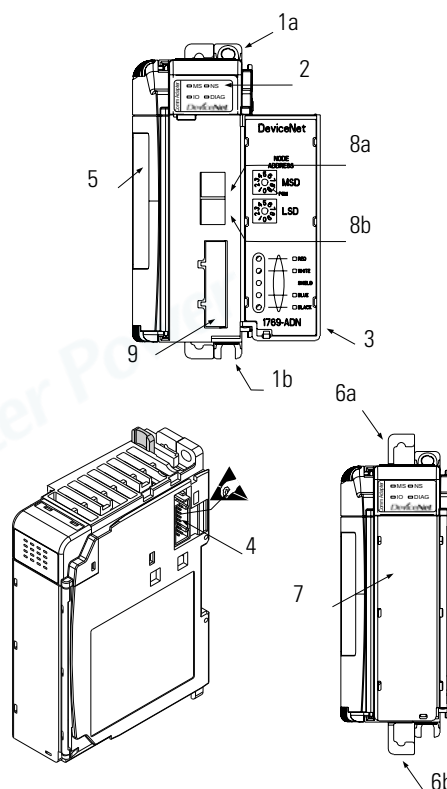


Installing Your DeviceNet Adapter Module

This chapter explains how to install your DeviceNet™ adapter. Included is information about:

- System Assembly
- Replacing the 1769-ADN within a System
- Field Wiring Connections
- Setting the Network Address Switches

Compact I/O Module Description



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Item	Description	Item	Description
1a	Upper panel mounting tab	6a	Upper DIN-rail latch
1b	Lower panel mounting tab	6b	Lower DIN-rail latch
2	I/O diagnostic LEDs	7	Write-on label (user I.D. tag)
3	Module door with terminal identification label	8a	DeviceNet node address rotary selection switches - Most Significant Digit (MSD)
4	Stationary bus connector with male pins	8b	DeviceNet node address rotary selection switches - Least Significant Digit (LSD)
5	Nameplate label	9	Removable DeviceNet terminal connector

DIN Rail Mounting

The adapter can be mounted using the following DIN rails:

- 35 x 7.5mm (EN50022 - 35 x 7.5)
- 35 x 15mm (EN 50022 - 35 x 15)

Before mounting the module on a DIN rail, close the DIN rail latches. Press the DIN rail mounting area of the module against the DIN rail. The latches will momentarily open and lock into place.

Replacing the 1769-ADN within a System

The adapter can be replaced while the system is mounted to a panel (or DIN rail).

1. Remove power. See important note on page 1-2.
2. Remove the DeviceNet cable from the module by loosening the upper and lower retaining screws of the DeviceNet connector and removing the connector from the module.
3. Remove the upper and lower mounting screws from the adapter (or open the DIN latches using a flat-blade or phillips-style screwdriver).
4. On the right-side adjacent module, move its bus lever to the right (unlock) to disconnect it from the adapter being removed.
5. Gently slide the disconnected adapter forward.

If you feel excessive resistance, make sure that you disconnected the adapter from the bus and that you removed both mounting screws (or opened the DIN latches).

Note: It may be necessary to rock the module slightly from front to back to remove it, or, in a panel-mounted system, to loosen the screws of adjacent modules.

6. Before installing the replacement adapter, be sure that the bus lever on the right-side adjacent module is in the unlocked (fully right) position.
7. Slide the replacement adapter into the open slot.
8. Connect the adapter and modules together by locking (fully left) the bus lever on the right-side adjacent module.
9. Replace the mounting screws (or snap the adapter onto the DIN rail).

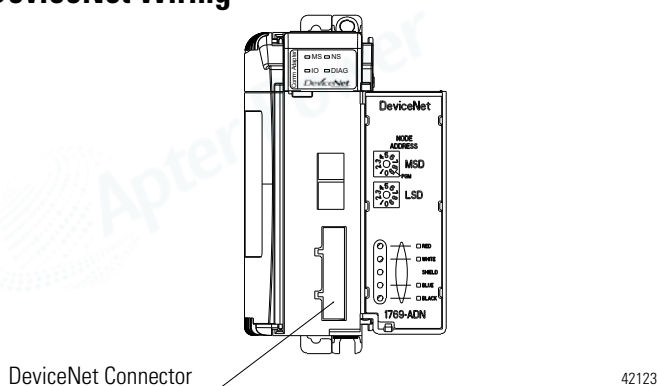
10. Replace the DeviceNet cable on the module by tightening the upper and lower retaining screws and attaching the connector to the module.

Set the network address switches to the same value as the removed adapter.

Field Wiring Connections Grounding the Adapter

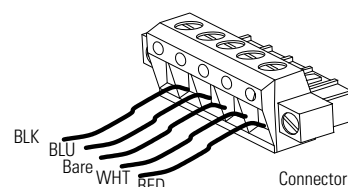
This product is intended to be mounted to a well-grounded mounting surface such as a metal panel. Additional grounding connections from the adapter's mounting tabs or metal DIN rail (if used), are not required unless you cannot ground the mounting surface. Refer to *Industrial Automation Wiring and Grounding Guidelines*, publication 1770-4.1, for additional information.

DeviceNet Wiring



1. Connect the DeviceNet cable to the removable connector as shown.

Connect	To
BLK Wire	-V
BLU Wire	CAN Low
Bare Wire	Drain
WHT Wire	CAN High
RED Wire	+V



2. Insert the removable female connector into the mating male connector on the DeviceNet adapter module.
3. Screw the removable connector to the adapter case with the upper and lower mounting screws. Screw torque is 5-6 in-lbs.

TIP

DeviceNet cable colors are shown on the wiring label on the front of the adapter.



Note: A 10-pin linear plug (i.e., 1787-PLUG10R) will not fit while a 1799-DNETCON or -DNETSCON will fit.

IMPORTANT

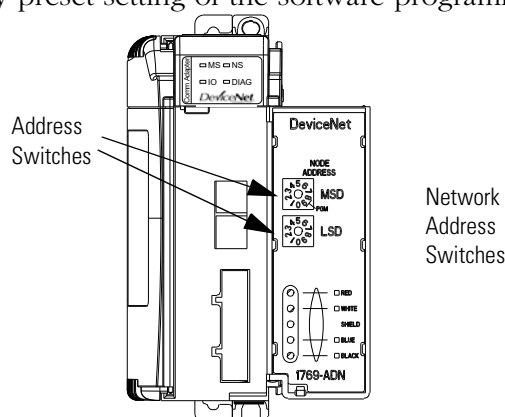
If the 1769-ADN is the last device connected to the DeviceNet network trunkline, be sure to add or move the termination resistor (Allen-Bradley part number 1485A-C2 or a 120Ω 5% or > ¼W resistor) across the Blue (CAN Low) and White (CAN High) wires. We recommend 121Ω ¼W 1% metal film.

Setting the Network Address Switches

Set the network node address with the two rotary switches on the front of the module. Use a small, slotted screwdriver to set the switches. The switch labeled MSD (Most Significant Digit) sets the 10s digit while the switch labeled LSD (Least Significant Digit) sets the 1s digit.

Valid network node addresses are 00 through 63. Switch settings from 00 to 63 select network addresses 00 to 63. Switch settings from 64 to 99 instruct the adapter to use the software programmed value for the node network address. (Address 95 is reserved and should not be used for normal operation.)

The software programmed value is set via RSNetworkx™ for DeviceNet and stored in non-volatile memory on the 1769-ADN. The initial, factory-preset setting of the software programmed value is 63.



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NOTE: The baud rate for the adapter is set by way of the module's automatic "auto baud" function at power-up.

Use the removable, write-on label to mark your I.D. tag, etc. with permanent ink. Your markings are visible when the module door is closed.

TIP

Series B adapters that have their node address switches set to 95, startup in a special factory mode that does not support I/O connections. Series B adapters should **not** have their node address set to 95 for normal use.

Configuring the 1769-ADN

The 1769-ADN must be configured with RSNetworkx for DeviceNet. This configuration tool allows you to identify all of the devices (I/O modules, power supplies, expansion cables, end caps) and their locations in your 1769 system. The 1769-ADN must have the I/O configuration loaded into its' memory to perform the network communication function.

The 1769-ADN will not accept I/O connections if the programmed system configuration does not match the actual system configuration. The 1769-ADN retains the programmed system configuration in non-volatile memory so it can compare it with the actual system configuration on power-up. For more information, refer to *Configuring Your Compact I/O Series A DeviceNet Adapter* in Chapter 3 or *Configuring Your Compact I/O Series B DeviceNet Adapter* in Chapter 4.

Specifications

Read this appendix to learn about the 1769-ADN specifications.

1769-ADN Specifications

Series A Adapters General Specifications

Specification	Value
Dimensions	118mm (height) x 87mm (depth) x 50mm (width) height including mounting tabs is 138mm 4.65in (height) x 3.43in (depth) x 1.97in (width) height including mounting tabs is 5.43in
Approximate Shipping Weight (With Carton)	280g (0.61lbs)
Storage Temperature	-40 to +85C (-40F to +185F)
Operating Temperature	0 to +60C (+32F to +140F)
Operating Humidity	5 to 95% non-condensing
Operating Altitude	2000m (6561ft)
Vibration	Operating: 10 to 500Hz, 5G, 0.030in max. peak-to-peak Relay Operation: 2G
Shock	Operating: 30G, 11ms panel mounted (20G 11ms DIN-rail mounted) Relay Operation: 7.5G panel mounted (5G DIN-rail mounted) Non-Operating: 40G panel mounted (30G DIN-rail mounted)
Agency Certification	 DeviceNet PERFORMANCE TESTED
Hazardous Environment Class	Class I, Division 2, Hazardous Location, Groups A, B, C, D (UL 1604, C-UL under CSA C22.2 No. 213)
Radiated and Conducted Emissions	EN50081-2 Class A
Electrical/EMC	The adapter has passed testing at the following levels:
• ESD Immunity (IEC1000-4-2)	4kV contact, 8kV air, 4kV indirect
• Radiated Immunity (IEC1000-4-3)	10V/m, 80 to 1000 MHz, 80% amplitude modulation, +900 MHz keyed carrier
• Fast Transient Burst (IEC1000-4-4)	2kV, 4 kHz
• Surge Immunity (IEC1000-4-5)	2kV galvanic gun
• Conducted Immunity (IEC1000-4-6)	10V, 0.15 to 80 MHz ¹

1. Conducted immunity frequency range may be 150 kHz to 30 MHz if the Radiated Immunity frequency range is 30 MHz to 1000 MHz.

Series B Adapters Input/Output Specifications

Specification	Value
Bus Current Draw (Maximum)	Series A 450mA at 5V dc (2.25W) Series B 500mA at 5V dc (2.5W)
Heat Dissipation	4.7W maximum
I/O Capacity	30 modules
Communication Rate	125k bit/s 250k bit/s 500k bit/s
Indicators	Module status - red/grn Network status - red/grn I/O status - red/grn Diagnostic status - red/grn
DeviceNet Power Requirements	24V dc (+4%) @ 90mA maximum, N.E.C. Class 2
DeviceNet Cable	Allen-Bradley part no. 1485C-P1-Cxxx. Refer to publication DN-2.5 for more information.
Power Supply Distance Rating	4 (Series A); 5 (Series B) (The adapter may not be more than 4 or 5 modules away from the power supply, depending on the Series.)
Isolation Voltage	Verified by the following qualification test: 710V dc, 1 minute
Vendor I.D. Code	1
Product Type Code	12
Product Code	69