DeviceNet module for use with C441, S611 and as Stand-alone I/O

Installation

The DeviceNet™ module is designed to be used in industrial applications and installed in accordance with this document. The device is intended for use in clean, dry environments.

Mount the module

To mount the DeviceNet adapter to C441, S611, or C440-COM-ADP, the following procedure must be performed:

- Place the tabs opposite the DeviceNet connector into the lower slots provided.
- Pivot the module on the lower tabs.
- Gently press the module and base together.

Note: C440-COM-ADP should be used for replacement applications only. New applications requiring DeviceNet with I/O for the C440 should utilize the stand-alone DeviceNet modules. Refer to DeviceNet stand-alone Instruction Leaflet IL050015EN for further information.

Connect the DeviceNet cable to the 5-position connector located on the face of the module.

- The DeviceNet cable is color-coded and matches the colors on the 5-position connector located on the face of the module. The connector has screws for positive retention to eliminate accidental unplugging
- Use one wire per terminal

DeviceNet setup and configuration

The DeviceNet adapter requires no extra setup or configuration for normal operation other than setting the MAC ID and baud rate for DeviceNet. For more information on the DeviceNet attributes and how to modify them, refer to the appropriate user manual on page 4.

Set the DeviceNet MAC ID and baud rate

The MAC ID and baud rate are set using DIP switches on the face of the module. The MAC ID is in binary with the major units numbered to the left of the switch on the side label. Adding up the major units set to ON determines the MAC ID of the module.

Example: To set the MAC ID to 25, start from the top (or 32) and set the switches to

OFF(32), ON(16), ON(8), OFF(4), OFF(2), ON(1) (16+8+1=25).

The baud rate is set using the configuration switches B0 and B1.

Table 1. Configuration Switches

B1	B0	Baud
OFF	OFF	125K
OFF	ON	250K
ON	OFF	500K
ON	ON	Software configured

Table 2. DeviceNet Codes

C441	Description
Vendor ID	0 x 44 (68 Dec)
Device type	0 x 03 (3 Dec) overload
Product code	0 x 1101 (4353 Dec) MI with 24V dc IO
0 x 1102 (4354 Dec) MI with 120V ac IO

C441, 120V ac Control Powered Models	
Vendor ID	0 x 44 (68 Dec)
Device type	0 x 03 (overload)
Product code	0 x 1122 (4386 Dec) MI with 24V dc IO
0 x 1123 (4387 Dec) MI with 120V ac IO

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S611 Softstarter

Vendor ID	0 x 44 (68 Dec)
Device type	0 x 17 (23 Dec, Softstarter)
Product code	0 x 1119 (4377 Dec) S611 with 24V dc IO 0 x 111A (4378 Dec) S611 with 120V ac IO

STAND-ALONE I/O

Vendor ID	0 x 44 (68 Dec)
Device type	0 x 07 (Discrete I/O))
Product code	0 x 1103 (4355 Dec) 24V dc IO 0 x 1104 (4356 Dec) 120V ac IO

Table 3. DeviceNet Communication Specifications

All Models (C441, S611)

Communication	Value		
DeviceNet baud rates	125K, 250K, 500K		
C441, All Models			
Default input assembly 100 Dec	Word	Data	
	0	Device status	
	1	rms current IA	
	2	rms current IB	
	3	rms current IC	
Default Output Assembly 105 Dec	Byte	Data	
		Control Byte	
		Bit	Bit Definition
		0	Output 1
		1	Output 2
		2	Fault Reset
		3	Reserved
		4	Reserved
		5	Remote Trip
		6-7	Reserved

S611 Soft Starter

Default input assem- bly 121 Dec	Word	Data Default	
	0	Device Status	
	1	RMS Current Avg	
	2	RMS Voltage Avg	
	3	Overload Thermal Pile	
Default Output Assembly 106 DEC	Byte	Data	
	0	Control Byte	
		Bit	Bit Definition
		0	Run1
		1	Permissive
		2	Fault reset
		3-5	Reserved
		6	Out 1
		7	Out 2

Stand-alone I/O

Default input assembly 107 (Byte)

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Input 4	Input 3	Input 2	Input 1	Output 2	Output 1	reserved	reserved

Default input assembly 32 (Byte)

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
reserved	reserved	reserved	reserved	reserved	reserved	Output 2	Output 1
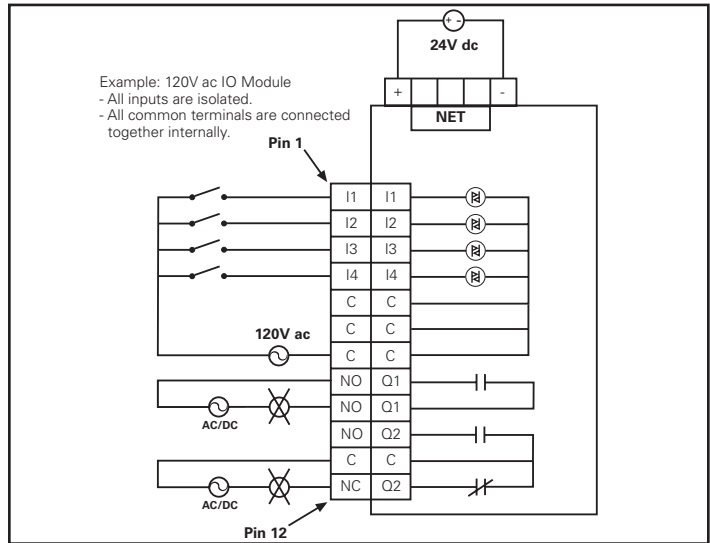
Figure 1. C441K—120 Vac Input Specification

Table 4 120 Vac Inputs

Specification	Value
Number of inputs	4
Nominal voltage	120V ac
Nominal current	15 mA
Type	50/60 Hz
Input type	IEC 61131-2, type 1 digital

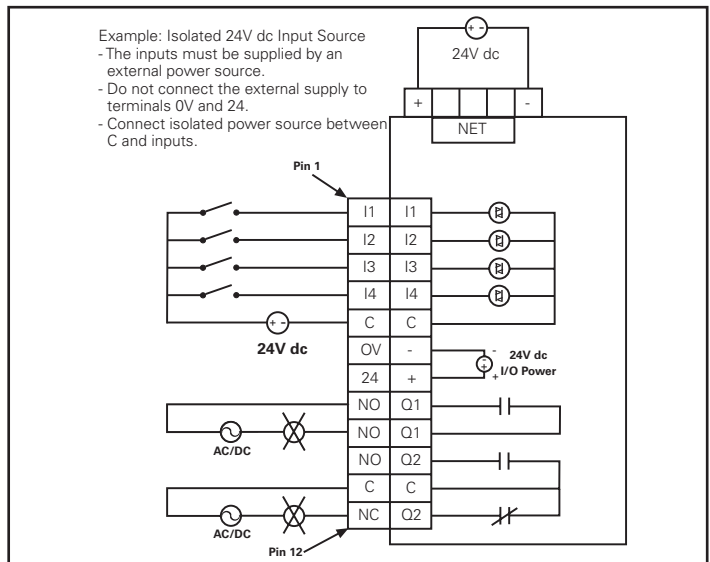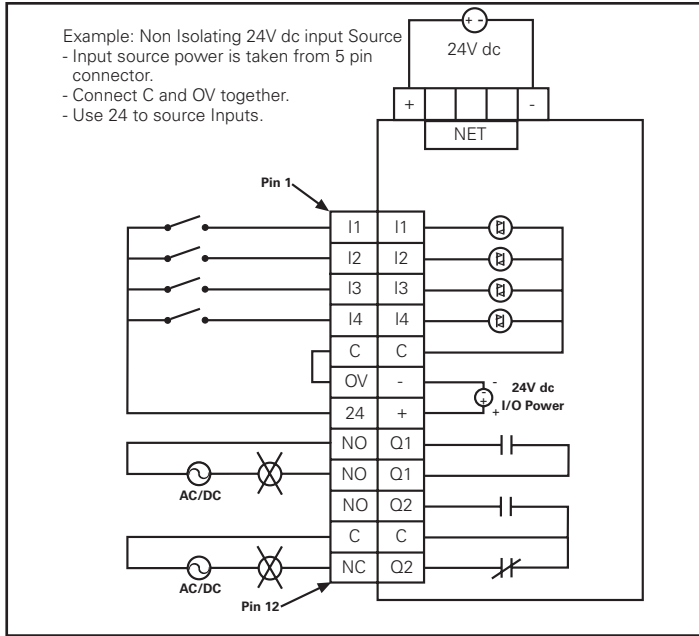**Figure 2. C441L 24V dc input Specification - Isolated**

Figure 3. C441L 24V dc input Specification - Non-Isolating

Table 5. 24V dc Inputs

Specification	Value
Number of inputs	4
Nominal voltage	24V ac
Nominal current	5 mA
Type	Current Sinking
Input type	IEC 61131-2, type 1 digital
Max. 24V dc source current	50 mA

Certifications

Agency certifications	UL® 508
	cUL® (CSA® C22.2 No. 14)
	CE (low voltage directive)
	DeviceNet conformance tested

Table 6 Environmental Ratings of the Module

Description		Rating
Transportation and Storage	Temperature	-50°C to 80°C (-58°F to176°F)
	Humidity	5-95% non-condensing
Operating	Temperature	-40°C to 55°C [-40°F to 131°F]
	Humidity	5-95% non-condensing
	Altitude	Above 2000 meters (6600 feet) consult factory
	Shock IEC 60068-2-27	15G any direction for 11 milliseconds
	Vibration IEC 60068-2-6	10-150Hz, 3G, 0.3mm Maximum Peak-to-Peak
	Pollution Degree	3

Module Electrical Requirements

Description	Requirement
Voltage range	18–30 Vdc
Current draw	Approx. 18 mA

Notes: For use with Eaton UL Listed Power Supply Catalog Nos. PSS55A, PSS55B, PSS55C or PSS160E.

Any UL Listed isolated power supply with a maximum of 30 Vdc output may be used, provided that a UL Listed or Recognized Fuse rated no more than 3 A maximum be installed.

Use UL listed or recognized insulated conductors, rated 75oC, copper only, for field wiring terminals and main overload conductors.

For **Figure 2, Figure 3,** and **Table 5**: Do not connect a 24 Vdc source to Pins 6 and 7. The "I/O Power: 24 Vdc" is to be used only in conjunction with the inputs. It is a 24 Vdc output intended to only supply signal power for the inputs. When using the 24 Vdc input supply, Pin 6 should only be connected to Pin 5 (24 Vdc input supply common to input common). Any device using the provided 24 Vdc input supply must have 500V isolation from ground. Example devices include pushbuttons and auxiliary contacts.

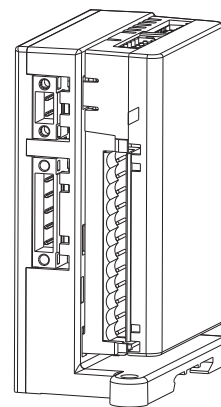**5pin 24VDC Power, DeviceNet Connector**
CURRENT DRAW: 18mA
TERMINAL TORQUE: .25Nm (2.25 lb-in)
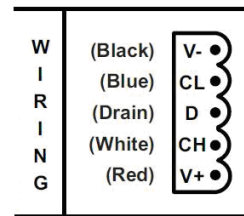
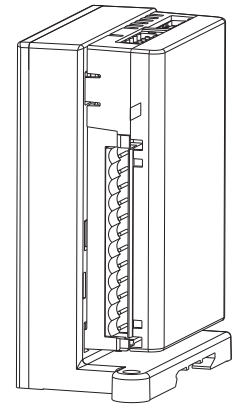

Reference

C441 Manual	MN04209001E
S611 Manual	MN03902011E
C440-COM-ADP Instruction Leaflet	IL04210006E

Assembled Unit
C440, S611

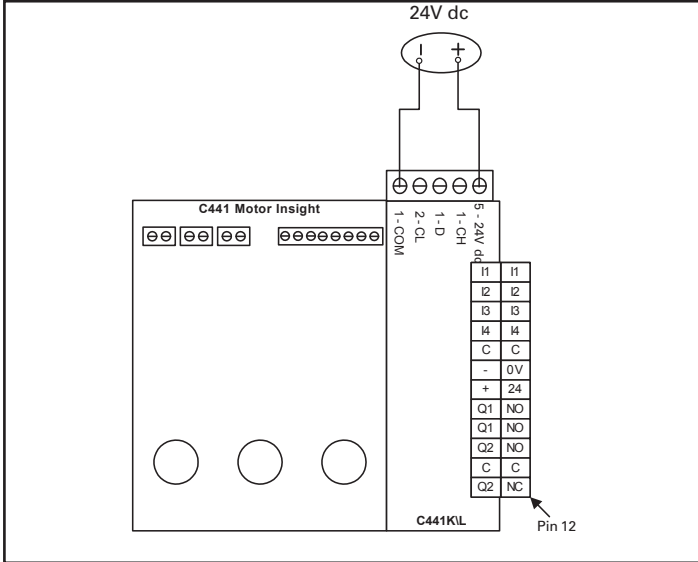Assembled Unit
Standalone I/O

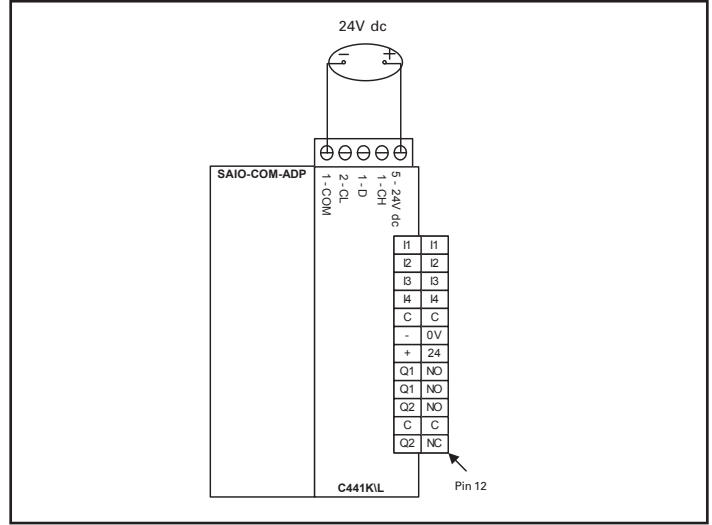**Figure 1. C441K\L com module Wiring with C441**

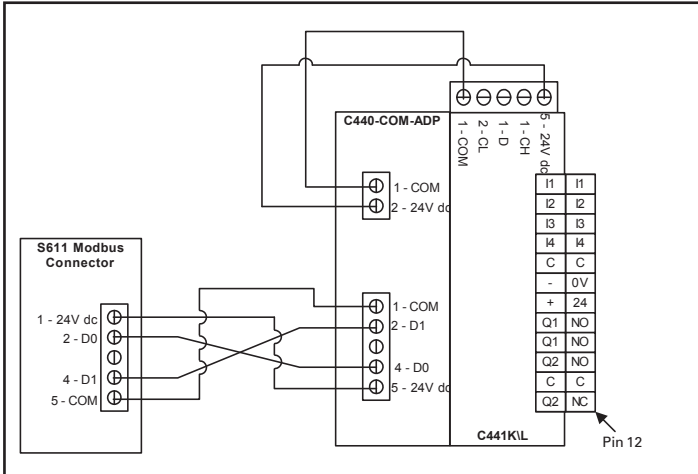**Figure 3. C441K\L com module Wiring as Stand-alone I/O**

Figure 2. C441K\L com module Wiring with S611 Softstarter

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