Instruction Leaflet IL04209009E

Effective February 2012
Supersedes February 2012

Ethernet module for use with C440, XTOE, ZEB, S611 and as Stand-alone I/O

(Modbus TCP & EtherNet/IP)

Installation

The Ethernet 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

The device has both #10 screw mounting feet and a 35mm din rail spring mount feature.

To mount the adapter to a din rail place the top of the device on the rail first then apply gentle downward force while pushing the device flat against the din rail.

Ethernet Port Connections

Connect the Ethernet cable to one of the Ethernet ports. This adapter has an internal embedded switch which provides two Ethernet ports. The two ports provide the ability to create a linear or ring configuration. In the star configuration either port can be used.

This adapter supports Modbus TCP, EtherNet/IP and HTTP.

Set the IP Address

The IP address is selected using the DIP switches. See table one for DIP switch behavior.

Table 1. DIP Switch Settings

DIP switch setting	Behavior
0	Use the static IP address of 192.168.1.254
1 to 253	Combine the upper three octets stored in NVMemory with the DIP switch setting. Example: If the static IP address programmed from the network is100.100.100.0 and the DIP switch is set to 5, the final IP address will be 100.100.100.5.
254	Use the full IP address stored in NVMemory. The default NVMemory value is 192.168.1.254.
255	DHCP is used to define the IP address. (Default)

Web Page Access

To configure or monitor the device through a web browser, type the devices IP address into the web browser address bar.

Standalone IO	
Vendor ID	0x44 (68d)
Device Type	0x07 (7d) IO
Product Code	0x112A - 24Vdc IO 0x112B - 120Vac IO

C440 Solid State Overload	
Vendor ID	0x44 (68d)
Device Type	0x03 (3d) Overload
Product Code	0x1130 - 24Vdc IO 0x1131 - 120Vac IO

S611 Softstarter	
Vendor ID	0x44 (68d)
Device Type	0x17 (23d) Softstarter
Product Code	0x1133 - 24Vdc IO 0x1134 - 120Vac IO

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Default EtherNet/IP Assemblies

Table 2. EtherNet/IP - C440 Default Assemblies

Default Input Assembly 0x78 (120d)	Word	Data	
	0	Device status	
	1	Latched Fault Bits	
	2	RMS Current Avg	
	3	Thermal Mem%	
Default Output Assembly 0x69 (105d)	Byte	Data	
		Control Byte	
		Bit	Bit Definition
		0	Output1
		1	Output2
		2	Fault Reset
		3	Reserved
		4	Reserved
		5	Remote Trip
		6-7	Reserved

*See Manual for full CIP Object Model.

Table 3. EtherNet/IP - S611 Default Assembly

Default Input Assembly 0x79 (121d)	Word	Data	
	0	Device Status	
	1	RMS Current Avg	
	2	RMS Voltage Avg	
	3	Overload Thermal Pile	
Default Output Assembly 0x6A (106d)	Byte	Data	
	0	Control Byte	
		Bit	Bit Definition
		0	Run 1
		1	Permissive
		2	Fault Reset
		3-5	Reserved
		6	Out 1
		7	Out 2

Modbus Register Summary

Table 4. Modbus Registers - Adapter IO

Modbus Register	R/W	Description
1	R	Adapter Inputs
101	R/W	Adapter Relay Outputs

** See Manual for full Modbus register map.

Table 5. Modbus Registers - C440

Modbus Register	R/W	Description
300	R	Motor State: 0 = Stopped 1 = Running 2 = Tripped
301	R	Phase A RMS Current
302	R	Phase B RMS Current
303	R	Phase C RMS Current
304	R	Average RMS Current
305	R	Thermal Memory Percentage
332	R/W	Command Register: Bit 0 = 1 -> Trip Bit 1 = 1 -> Reset

** See Manual for full Modbus register map.

Table 6. Modbus Registers - S611

Modbus Register	R/W	Description
300	R	Motor Control Status
301	R	Current Scale Factor
302	R	Phase A RMS Current
303	R	Phase B RMS Current
304	R	Phase C RMS Current
305	R	Average RMS Current
306	R	Phase A RMS Voltage (L1-L2)
307	R	Phase A RMS Voltage (L2-L3)
308	R	Phase A RMS Voltage (L3-L1)
309	R	Average RMS Voltage
310	R	Motor Power (KW)
314	R	Motor Thermal Capacity %
400	R/W	Motor Control

** See Manual for full Modbus register map.

Table 7. EtherNet/IP - S611 Default Assembly

Default Input Assembly 0x79 (121d)	Word	Data	
	0	Device Status	
	1	RMS Current Avg	
	2	RMS Voltage Avg	
	3	Overload Thermal Pile	
Default Output Assembly 0x6A (106d)	Byte	Data	
	0	Control Byte	
		Bit	Bit Definition
		0	Run 1
		1	Permissive
		2	Fault Reset
		3-5	Reserved
		6	Out 1
		7	Out 2

*See Manual for full CIP Object Model.

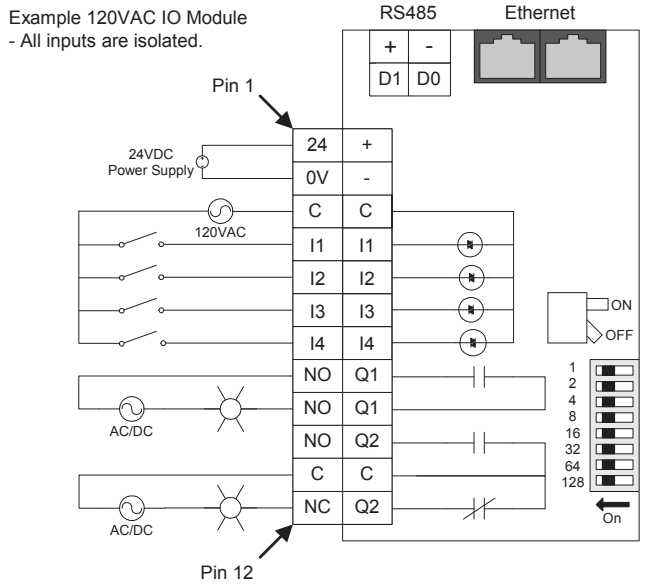

Figure 1. C441U - 120 Vac Input Specification

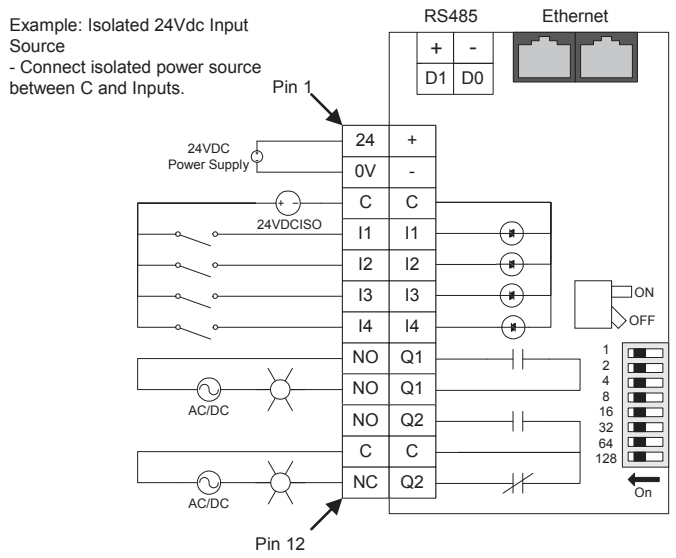

Figure 2. C441V 24 Vdc Input Specification - Isolated

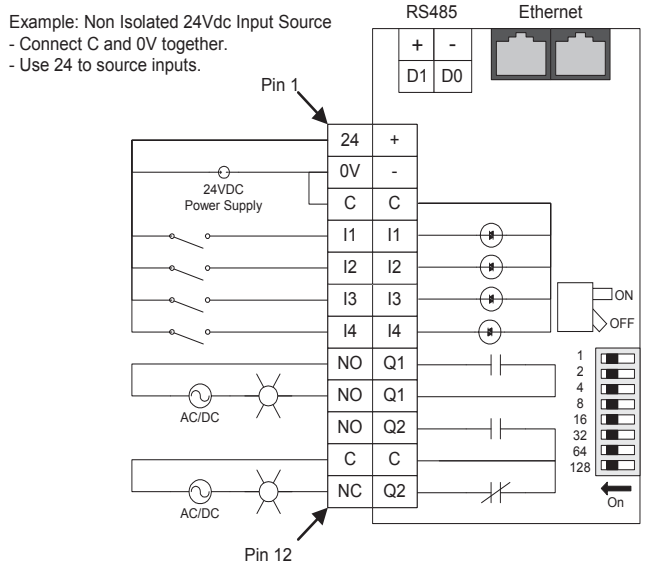

Figure 3. C441V 24 Vdc input Specification - Non-Isolating

Table 8. 120 Vac Inputs

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

Table 9. 24 Vdc Inputs

Specification	Value
Number of inputs	4
Nominal voltage	24Vdc
Nominal current	5 mA
Type	Current Sinking
Input type	IEC 61131-2, type 1 digital

Ethernet module for use with C440, XTOE, ZEB, S611 and as Stand-alone I/O
(ModbusTCP & EtherNet/IP)

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

Reference

C441/Standalone I/O Manual	MN04201001E
S611 Manual	MN03902011E

EtherNet/IP™ conformance tested

Table 10. Environmental Ratings of the Module

Description		Rating
Transportation and Storage	Temperature	-40°C to 85°C (-40°F to 185°F)
	Humidity	5-95% non condensing
Operating	Temperature	-20°C to 55°C (-4°F to 131°F)
	Humidity	5-95% non condensing
	Altitude	Above 6600 ft (2000m) Consult factory
	Shock IEC 60068-2-27	15G any direction for 11 ms
	Vibration IEC 60068-2-6	5-150 Hz, 3G, 0.42mm peak-to-peak
	Pollution Degree	3

Table 11. Module Electrical Requirements

Description	Requirement
Voltage range	18–30 Vdc
Current draw	Approx. 50 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.

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