Quantum 140 NOE 771 xx
Read Me

31005178.03

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Telemecanique

English

Safety Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation, which, if not avoided, **will result** in death, serious injury, or equipment damage.

WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, **can result** in death, serious injury, or equipment damage.

CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, **can result** in injury or equipment damage.

PLEASE NOTE

Electrical equipment should be serviced only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material. This document is not intended as an instruction manual for untrained persons.

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English

Quantum 140 NOE 771 -00, -01, -10, -11 Read Me

Read Me First

Before you can use your **NOE 771 xx** module, you must configure it with an Internet Protocol (IP) address, by using either one of the two following methods.

- Create a new user-configured IP address
- Use the derived default address

Note: Operating on a Corporate Network
Before placing the NOE on a corporate network, Schneider Electric recommends that you discuss the installation with your MIS department. It is likely that your company's corporate network has at least one DHCP server running already. If the NOE's DHCP server is running on the same network, it may disturb the network. To avoid any possible problem related to the NOE's DHCP server on the corporate network, you must ensure that the DHCP server is not running in the NOE by not having Address Entries in the Configuration. If there are no configured devices in the Address Server Configuration page, then the NOE will not start the DHCP server.

Patent Registration

Quantum Automation Series equipment is protected by U.S. Patent number 5,302,136 and by European Patent number 93202982.0-
The NOE 771 is protected by U.S. Patent numbers 4897777, 4992926, 4969083, 5131092, 5151978, 5159673, 5245704, 5251302, 5805442, 5975737, 5982362, 6061603, 6151625, 6285454.
Other patents pending.

Nomenclature

We use a naming scheme to identify the NOE 771 modules, and we refer to all four modules as 140 NOE 771 xx.
The following table describes the naming scheme.

NOE 771		Model Numbers	Model Name
xx	refers to	-00, -01, -10, -11	
x0	refers to	-00, -10	Transparent Factory
x1	refers to	-01, -11	Transparent Factory / Real Time
0x	refers to	-00, -01	Embedded Web Server
1x	refers to	-10, -11	FactoryCast Web Server

English

Email Service Configuration

With this release, Quantum Ethernet 140NOE771x1 modules support a new email service, which is documented in the *UNY USE 909 CDM* user guide supplied with Unity Pro. If your system operates in a non-Unity Pro (e.g., Concept) environment and you wish to utilize the email service, please consult *Email Service* in the *UNY USE 909 CDM* user guide. You can download this document at http://www.schneider-electric.com.

NTP Service

With this release, Quantum FactoryCast 140NOE77111 modules provide a Network Time Protocol client service in a Unity Pro environment. This new feature is documented in the *UNY USE 909 CDM* user guide supplied with Unity Pro.

User-Configured IP Address

A user-configured IP address requires you to assign the IP address.
Therefore, if a new IP address must be assigned, obtain it from your system administrator. Assign the new IP address using your Concept Programming Panel. Record the IP network address on the space located on the front panel of the module behind the door.
For more information refer to the latest version of the *Concept for Quantum User Manual* (840USE42800).
Unity Pro customers should refer to *Quantum with Unity Pro Ethernet Network Modules User Manual* (33002479) and *Quantum with Unity Pro TCP/IP Configuration User Manual* (33002467).

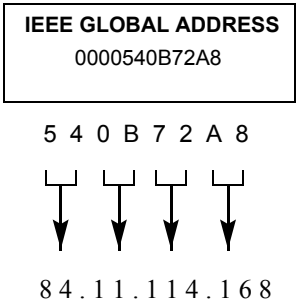
⚠	**CAUTION**
	COMMUNICATIONS BLOCK IP ADDRESS ASSIGNMENT Configuration of an incorrect destination IP address in an Ethernet communications block can cause register overwriting in the local PLC memory. Ensure that 0.0.0.0 is **not** entered as a destination IP address. For more information, please contact Schneider Electric and refer to resolution #E8096. **Failure to follow this precaution can result in injury or equipment damage.**

⚠	**CAUTION**
	MOMENTUM MODULE IP ADDRESS ASSIGNMENT USING BOOTP/DHCP Momentum ENT11000 Ethernet adapters may not successfully obtain an IP address from the following modules. ● all NOE 771x1 modules ● NOE771x0 modules (with executive version 3 or higher) To avoid this issue, you must perform the mandatory upgrade to ensure that your Momentum ENT11000 Ethernet adapters are version 1.06 or higher. **Failure to follow this precaution can result in injury or equipment damage.**

Derived Default IP Address

If you choose to use the default IP address derived from the MAC address, then proceed as follows.

1. Locate the global address label on the front panel of the module.
2. Note the right most eight digits.
3. Convert the digits from hexadecimal to decimal. Each pair of hexadecimal numbers will result in a decimal number between 0 and 255. This is the default IP address.



Note: The hexadecimal conversion can be done with a scientific calculator or a computer-based calculator program.

Record the IP network address on the space located on the front panel of the module behind the door.
For more information refer to the latest version of the *Quantum NOE771 xx Ethernet Modules User Guide* (840USE11600).
Unity Pro customers should refer to *Quantum with Unity Pro Ethernet Network Modules User Manual* (33002479) and *Quantum with Unity Pro TCP/IP Configuration User Manual* (33002467).

A 1-Channel Device

The **140 NOE 771 xx** modules are capable of communicating over either:
- auto-sensing10/100BASE-T network
- 100BASE-FX Ethernet network

at any given time, ***but not both networks at the same time***.

Note: Do not attempt to connect module directly to another end device. The cable for each end device must be routed through an Ethernet hub or switch for the network to function properly.

English

Key Features

The Quantum **140 NOE 771 xx** modules are Ethernet TCP/IP modules that provide a PLC with access to an Ethernet network. **140 NOE 771 xx** modules can plug into any available slot in a Quantum backplane and are capable of being hot swapped. The key features of the **140 NOE 771 (-00, -01, -10, -11)** models are listed below.

	-00	**-01**	**-10**	**-11**
HTTP Server	X	X	X	X
BOOTP Client	X	X	X	X
BOOTP or DHCP Server	X	X	X	X
SNMP V2 Agent	X	X	X	X
Flash File System	X	X	X	X
FTP Server	X	X	X	X
MODBUS Messaging	X	X	X	X
MODBUS I/O Scanning	X	X		X
Hot Standby	X	X	X	X
Global Data - Publish / Subscribe		X		X
Bandwidth Monitoring		X		X
Faulty Device Replacement (DHCP Server)		X		X
Enhanced Web Diagnostics		X		X
Schneider Private MIB		X		X
FactoryCast Application			X	X
User Programmable Web Pages			X	X
FactoryCast V3 (for Unity Pro)				X
Unity Pro UMAS Protocol Support		X		X

* Unity support is available in NOE Executive version 3.1 and higher.

CAUTION

POSSIBLE GLOBAL DATA INTERRUPTION WITH CONCEPT HOT STANDBY

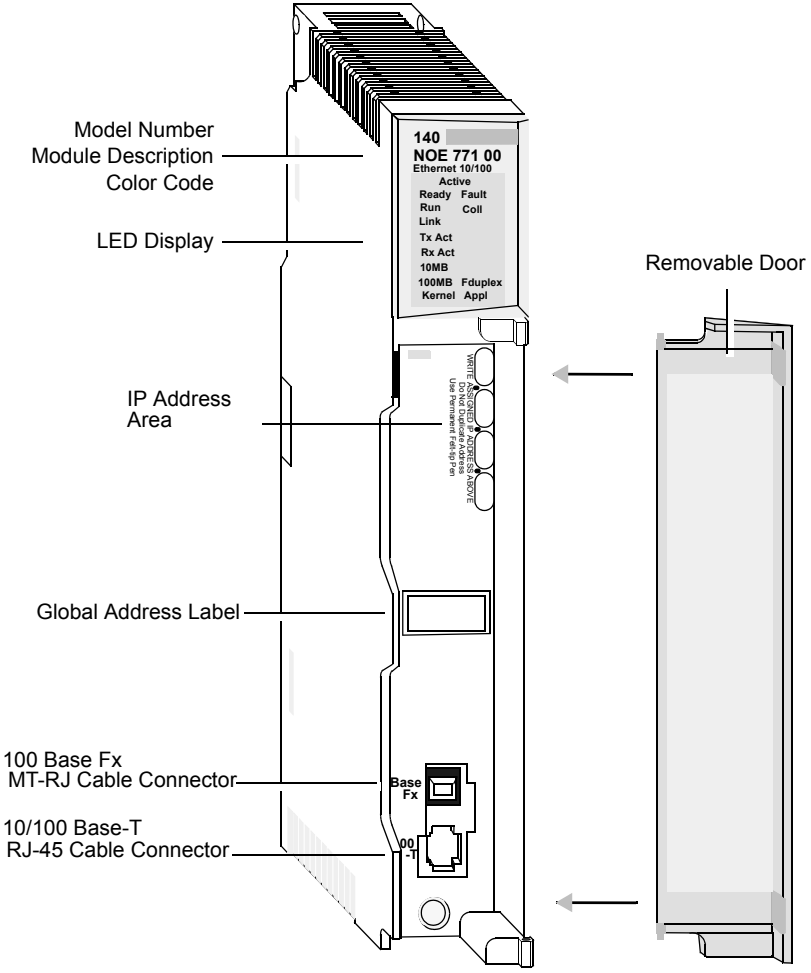
Global Data is currently not fully supported during a Hot Standby swap because the NOE module in the new primary rack may reboot automatically. After the NOE module reboots automatically, all services will operate properly.
This mode of operation only occurs if Global Data is configured in a Hot Standby system programmed with Concept, using NOE exec version 3.5. Concept Hot Standby users that require uninterrupted Global Data support should use NOE exec version 3.3.

Failure to follow this precaution can result in injury or equipment damage.

English

Illustration

All **140 NOE 771 xx** modules look similar. Below we show a **140 NOE 771 00**.



English

Module Specification Table

Key specifications for the Quantum **140 NOE 771 xx** modules are:

Communication Ports	● One auto-sensing 10/100Base-T shielded twisted pair (RJ-45 connector) port ● One 100Base-FX (MT-RJ connector) port Both ports work in the same way but only one at a time.		
LED Indicators	**Label**	**Color**	**Description**
	Active	Green	Indicates that the backplane is operating.
	Ready	Green	Indicates that the module is healthy.
	Fault	Red	Indicates that the NOE is in a reset or fault state.
	Run	Green	Flashes to indicate diagnostic code, as described in the *Run LED Status* table below.
	Coll	Red	Flashes when Ethernet collisions occur.
	Link	Green	On when Ethernet link is active.
	TxAct	Green	Flashes to indicate Ethernet transmission.
	RxAct	Green	Flashes to indicate Ethernet reception.
	Kernel	Amber	On when in kernel mode. Flashing while in download mode.
	10MB	Green	On when the module is connected to a 10 Megabit network.
	100MB	Green	On when the module is connected to a 100 Megabit network.
	Fduplex	Green	On when Ethernet is operating in the full duplex mode.
	Appl	Green	On when crash log entry exists.
Bus Current Required	750 mA		
Power Dissipation	3.8 W		
Fuse	None		
Programming Software			
Type and Version	Concept, Version 2.5 with SR2 with patch or higher (see resolution number 1162) ProWORX NxT Version 2.2 SR6 or higher Unity Pro, Version 1.0 or higher		
Firmware			
CPU Type and Version	Quantum Executive, Version 2.0 or higher		
NOE Upgradable	Field upgradable via FTP or Programming Panel.		

Run LED Status

The state of the *Run LED* indicator is either steady or flashing. Thus, the *Run LED* indicator provides diagnostic information. The following table lists each available state of the *Run LED* indicator.

Indicator State	Status
On (steady)	Normal operation: The NOE module is ready for network communication.
Number of Flashes in sequence	
One	Not used
Two	Not used
Three	No Link: The network cable is not connected or is defective.
Four	Duplicate IP address
Five	No IP address: The module is attempting to obtain an IP address from a BOOTP server.
Six	Using default IP address
Seven	No valid executive NOE present
Eight	Invalid IP configuration (Likely cause: Default gateway is not on the same subnet mask as the NOE.)
Nine	Flash file system error

Embedded Web Server 140 NOE 771 0x

The Quantum **140 NOE 771 0x** contains an HTTP Web server. This Web server allows the following browser functions.

- display controller's configuration, register values, and personality
- display Ethernet statistics for the node
- display status, configuration, and register values of any remote/distributed I/O

The module's BOOTP/DHCP server and SNMP agent are configured from the Web pages.

Note: The embedded Web site must be viewed using Internet Explorer, Version 4.0 with SP2 (or higher).

Once the module has been installed, these pages can be viewed across the World Wide Web. Obtain the IP address or URL from your system administrator. Then type the address or URL into your browser.
For more information refer to the *Quantum NOE 771 xx Ethernet Modules User Guide* (840USE11600).
Unity Pro customers should refer to *Quantum with Unity Pro Ethernet Network Modules User Manual* (33002479) and *Quantum with Unity Pro TCP/IP Configuration User Manual* (33002467).

English

FactoryCast Web Server 140 NOE 771 1x

The Quantum **140 NOE 771 1x** contains an enhanced embedded Web server, called the FactoryCast Web server, which you may customize.
This Web server allows the following browser functions.

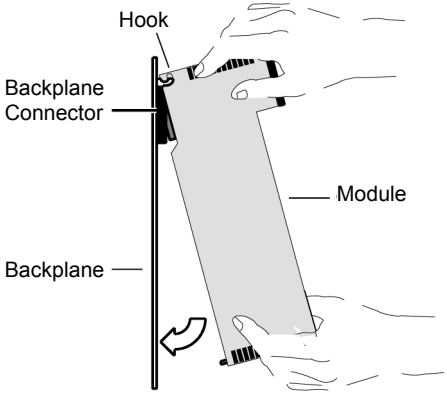
- display controller's configuration, real time register values, and personality
- display Ethernet statistics for the node
- display status, configuration, and register values of any remote / distributed I/O
- create and view graphic real time templates using Java beans
- create and view real time templates in spreadsheet format
- create custom Web pages
- use *Concept* symbols or direct addresses
- use BOOTP/DHCP configuration
- use SNMP with private MIB (140 NOE 771 11 only)

Note: The embedded Web site must be viewed using Internet Explorer, Version 4.0 with SP2 (or higher).

Once the module has been installed, these pages can be viewed across the World Wide Web. Obtain the IP address or URL from your system administrator. Then type the address into your browser.
For more information on the FactoryCast Web server used with the **140 NOE 771 xx** modules, obtain a copy of the latest version of the *FactoryCast User's Guide* (31001229) from your distributor or local sales office.
Unity Pro customers should refer to *Quantum with Unity Pro Ethernet Network Modules User Manual* (33002479) and *Quantum with Unity Pro TCP/IP Configuration User Manual* (33002467).

Installation

Perform the following steps to install a **140 NOE 771 xx** module.

Step	Action
1	Holding the module at an angle, mount it on to the two hooks located near the top of the backplane. 
2	Swing the module down so its connector engages the backplane connector.
3	Using a Phillips head screw driver, tighten the screw at the bottom of the module between 2 and 4 in-lbs. or between .22 and .45 Newton meters of torque.

Additional Information

For complete information concerning the **140 NOE 771 xx** modules, please obtain a copy of the *Quantum NOE 771 xx Ethernet Modules User Guide* (840USE11600) from your distributor or local sales office.
Unity Pro customers should refer to *Quantum with Unity Pro Ethernet Network Modules User Manual* (33002479) and *Quantum with Unity Pro TCP/IP Configuration User Manual* (33002467).