

BAS NETWORK AUTOMATION Supervisory Controllers

Metasys®

NCE

Network Control Engine

The Metasys Network Control Engine (NCE) series controllers combine the network supervisor capabilities and Internet Protocol (IP) network connectivity of a Network Automation Engine (NAE) with the Input/Output (I/O) point connectivity and direct digital control capabilities of a Field Equipment Controller (FEC).

NCEs provide a cost-effective solution designed for integrating central plants and large built-up air handlers into your Metasys networks.

All NCE models provide IP Ethernet network connectivity, the Metasys site management portal User Interface (UI) and the network supervisory capabilities featured on NAE35/NAE45 series network automation engines.

All NCE models provide connectivity to and supervisory control of a specified field bus trunk with up to 32 field controllers. Depending on the model, an NCE25 supports either a BACnet® Master-Slave/Token-Passing (MS/TP) trunk, an N2 Bus trunk, or a LONWORKS® network trunk.

All NCE models feature 33 integral I/O points and a Sensor Actuator (SA) Bus, which allow you to increase the NCE's I/O field point capacity and also integrate NS series Network Sensors and Variable Frequency Drives (VFDs) into your NCE application.

Some NCE models feature an integral field controller display screen with a navigation keypad. In addition, some NCE models feature an internal modem that supports standard dial-up capabilities.

Features

- Communication using commonly accepted IT standards at the automation and enterprise level Web-based user interface
- Web-based User Interface
- Supervision of either an N2 Bus, LONWORKS Network or BACnet MS/TP Bus field controller trunk
- Multiple connection options for data access
- Integral field controller with 33 I/O points
- Expandable I/O point capacity, NS sensor connectivity and VFD control on field controller SA Bus



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Ordering Codes	Description
MS-NCE25xx-x (Base Features on Each NCE25)	Each NCE25 series model requires a 24 VAC power supply and includes one RS-232-C serial port, one RS-485 optically isolated SA Bus port, one USB serial port, one Ethernet port, and an MS-BAT1020-0 data protection battery. Each NCE25 series model has 33 integral I/O points and supports up to 128 additional I/O points on the SA Bus.
MS-NCE2500-0	Base features with no physical field controller trunk connection.
MS-NCE2506-0	Base features with no physical field controller trunk connection. Includes integral display screen.
MS-NCE2510-0	Supports one N2 Bus trunk with up to 32 N2 devices.
MS-NCE2511-0	Supports one N2 Bus trunk with up to 32 N2 devices. Includes internal modem.
MS-NCE2516-0	Supports one N2 Bus trunk with up to 32 N2 devices. Includes integral display screen.
MS-NCE2517-0	Supports one N2 Bus trunk with up to 32 N2 devices. Includes integral display screen and internal modem.
MS-NCE2520-0	Supports one LonWORKS network trunk with up to 32 LonWORKS devices.
MS-NCE2521-0	Supports one LonWORKS network trunk with up to 32 LonWORKS devices. Includes internal modem.
MS-NCE2526-0	Supports one LonWORKS network trunk with up to 32 LonWORKS devices. Includes integral display screen.
MS-NCE2527-0	Supports one LonWORKS network trunk with up to 32 LonWORKS devices. Includes integral display screen and internal modem.
MS-NCE2560-0	Supports one FC Bus trunk with up to 32 MS/TP devices.
MS-NCE2561-0	Supports one FC Bus trunk with up to 32 MS/TP devices. Includes internal modem.
MS-NCE2566-0	Supports one FC Bus trunk with up to 32 MS/TP devices. Includes integral display screen.
MS-NCE2567-0	Supports one FC Bus trunk with up to 32 MS/TP devices. Includes integral display screen and internal modem.

Accessories

Ordering Codes	Description
MS-BAT1020-0	Replacement data protection battery for NAE35, NAE45, and NCE25. Rechargeable NiMH battery: 3.6 V 500 mAh, with a typical life of 10 years at 21°C (70°F)
MS-BTCVT-1	Wireless commissioning converter, with Bluetooth® technology, for configuring and commissioning the NCE field controller and the devices on the NCE SA Bus
MS-DIS1710-0	Local controller display connects to NCE on SA Bus and provides menu display and navigation keypad for monitoring status and controlling parameters on the NCE's integral field controller. Note: A DIS1710 display does not operate on NCE models that have an integral controller display.
MS-EXPORT-0	Metasys export utility, which extracts historical trend, alarm, and audit data from the system and presents the historical data in a variety of formats. Note: This option is not necessary for sites that have an ADS/ADX as the site director because it is provided with the ADS/ADX solution.

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Technical Specification

Power Requirement	Dedicated nominal 24 VAC, Class 2 power supply (North America), Safety Extra Low Voltage (SELV) power supply (Europe), at 50/60 Hz (20 VAC minimum to 30 VAC maximum)
Power Consumption	25 VA maximum Note: The 25 VA rating does not include any power supplied by the NCE29 to devices connected at the NCE29 Binary Outputs (BOs). BO devices connected to and powered by an NCE29 can require an additional 125 VA (maximum).
Ambient Operating Conditions	0 to 50°C; 10 to 90% RH, 30°C maximum dew point
Ambient Storage Conditions	-40 to 70°C; 5 to 95% RH, 30°C maximum dew point
Data Protection	Supports data protection on power failure. Rechargeable NiMH battery: 3.6 VDC 500 mAh, with a typical life of 5 to 7 years at 21°C; Product Code Number: MS-BAT1020-0
Processor	192 MHz Renesas™ SH4 7760 RISC processor
Memory	128 MB Flash nonvolatile memory for operating system, configuration data, and operations data storage and backup 128 MB Synchronous Dynamic Random Access Memory (SDRAM) for operations data dynamic memory
Operating System	Microsoft® Windows® CE embedded
Network and Serial Interfaces	One Ethernet port; 10/100 MB; 8-pin RJ-45 connector One optically isolated RS-485 port SA Bus; with a pluggable and keyed 4-position terminal block (on all NCE29 models) One optically isolated RS-485 port; with a pluggable and keyed 4-position terminal block (available on NCE2910, NCE2916, NCE2960 and NCE2966 models only) One LonWorks port; FTT10 78 Kbps; pluggable, keyed 3-position terminal block (available on NCE2920 and NCE2926 models only) One RS-232-C serial port with standard 9-pin sub-D connector that supports standard baud rates: 9600, 19.2k, 38.4k, or 76.8k baud. One USB serial port with standard USB connector
Housing	Plastic housing
<i>Plastic Material</i>	ABS and polycarbonate
<i>Protection</i>	IP20 (IEC60529)
Mounting	On flat surface with screws on three mounting clips or a single 35 mm DIN rail
Dimensions (H x W x D)	155 x 270 x 64 mm Minimum mounting space required: 250 x 370 x 110 mm
Shipping Weight	1.2 kg
Compliance	
<i>Europe</i>	CE Mark - Johnson Controls, Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.
<i>BACnet International</i>	BACnet Testing Laboratories™ (BTL) 135-2004 Listed BACnet Building Controller (B-BC)