

NB-GPC3

FEATURES

- ▼ Standalone or networked operation
- ▼ Sensor and output updated 10 times per second
- ▼ Easy configuration and firmware updates via NB-Pro software package
- ▼ User defined custom programming
- ▼ Battery-backed real time clock and memory
- ▼ Self-diagnostic circuits and LED indicators for power, I/O, network, processor and programs

SPECIFICATIONS

Mounting

- ▼ Flat surface with screws

Terminations

- ▼ Pluggable terminal blocks for STATbus, power and network connections

Input Supply

- ▼ **Line Input:** 22 to 29 VAC 50/60 Hz @ 3.65 A max, PTC protection
- ▼ **Transformer:** Internal isolated switching power supply
- ▼ **Indicators:** LEDs for line power, regulated DC voltages

Operating Environment

- ▼ 32 to 122°F (0 to 50°C)
- ▼ 0 to 80% RH noncondensing

Dimensions

- ▼ **Overall Size:** 8.2 x 6.5 x 1.0in. (20.83 x 16.51 x 2.54cm)
- ▼ **Shipping Weight:** 3lb. (1.36kg)

AGENCY APPROVALS

- ▼ UL listed 916, Management Equipment, Energy (PAZX)
- ▼ FCC rules Part 15 Class B computing Device

- ▼ UL Recognized 873, Component-Temperature Indicating and Regulating Equipment
- ▼ Complies with CE directives and standards

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NATIVE
SERIES[®]

A new addition to the Native Series[®] line of controllers, the NB-GPC3 represents the ultimate in I/O flexibility. Utilizing American Auto-Matrix's new STATbus technology, it allows you to customize the inputs and outputs to wide variety of applications. The NB-GPC3 complies with ANSI/ASHRAE Standard 135-2001 BACnet.

CONTROLLING CAPABILITIES

The NB-GPC3 provides built-in closed-loop DDC functions for applications such as full Proportional + Integral + Derivative (PID) control, thermostatic control of digital outputs, pulse counting, Boolean calculations, output supervision, alarming, and run-time totalization. User defined custom programming provides incredible flexibility and makes the NB-GPC3 suitable for all types of custom control applications. Full peer-to-peer capabilities allow the NB-GPC3 to supervise other controllers on the same network.

INPUTS & OUTPUTS

- ▼ Zero (0) Universal Inputs
- ▼ Zero (0) Pulse Counting Digital Inputs
- ▼ Zero (0) Analog Outputs
- ▼ Zero (0) Digital Outputs
- ▼ Inputs and Outputs are expandable via IOX modules

The NB-GPC3 ships from the factory with no on-board I/O at all. It is intended to serve as the platform on which to build a STATbus-based control system. Using IOX modules connected to the STATbus, it is possible to custom tailor the NB-GPC3 with the exact I/O complement to fit your project.

STATbus

STATbus is American Auto-Matrix's innovative new sensor networking technology. STATbus is an open-topology network protocol that allows flexible connection of up to thirteen I/O devices per channel using a single non-polar, twisted pair cable. This controller has four STATbus channels. This provides unprecedented flexibility in the installation and wiring of I/O devices to the controller. Substantial saving can be realized in both wiring and installation costs as compared to conventional sensors. Also, STATbus uses digital communications signals, giving it a higher level of noise immunity than conventional, analog sensors.

IOX MODULES

IOX modules are specialized STATbus modules which allow additional inputs and outputs to be added to the controller either in blocks of



Additionally, IOX modules exist which convert an ordinary sensor into an addressable, digital sensor. Now you no longer need to be limited by the selection of digital sensor that you can integrate into your building automation solution. Using IOX modules, you can choose the best sensor for the job and configure it as a digital sensor.

Through the use of IOX modules the NB-GPC3 can be configured to have:

- ▼ Up to twenty-four (24) universal inputs
- ▼ Up to eight (8) digital inputs
- ▼ Up to twelve (12) analog outputs
- ▼ Up to twelve (12) digital outputs
- ▼ Up to 4 AAM digital stats per channel

SMARTSENSORS

American Auto-Matrix offers a full line of SMART-sensors which can store configuration information, including a text name, allowing them to be pre-configured, either by the factory or in your office, minimizing in-field time. All you need to do is install the sensor and load the configuration data and the NB-GPC3 will be ready to control.

NETWORKING

Although the NB-GPC3 provides stand alone control, it also networks together with the entire American Auto-Matrix Native Series[®] BACnet product line. The NB-GPC3 will also network with any MS/TP BACnet device on an RS-485 network. The NB-GPC3 also communicates directly to the SAGE^{MAX} Area controller through BACnet

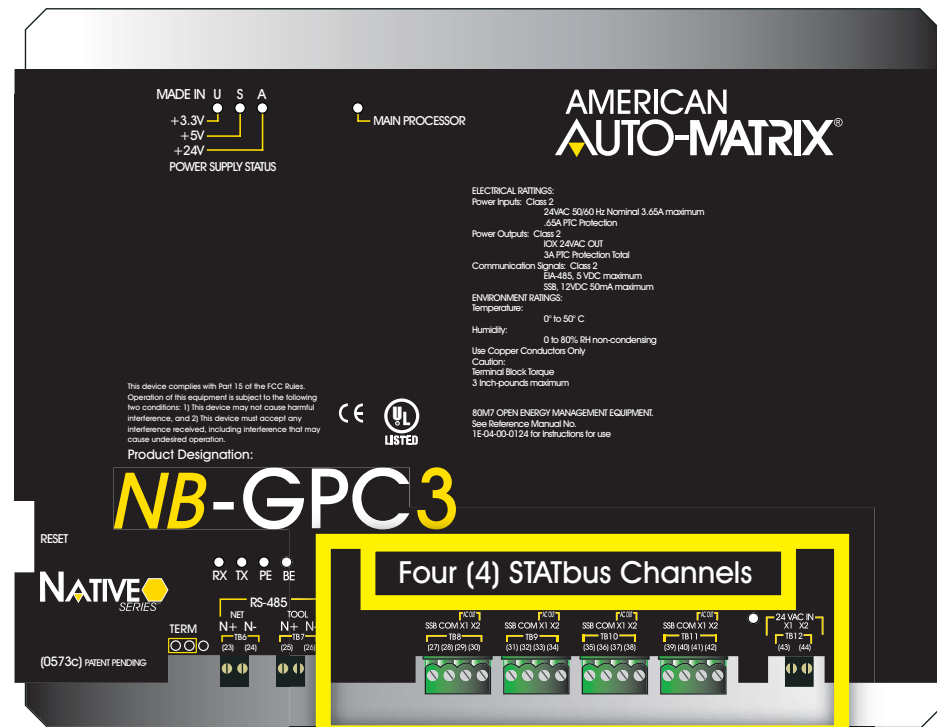
NB-GPC3

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NB-GPC3

MS/TP and with 3rd party area controllers configured for BACnet MS/TP. For applications where color graphics are of importance, the NB-GPC3, via the SAGE^{MAX}, can be networked to the Auto-PilotTM software that enables a PC-compatible computer to provide a user-friendly interface with a network of distributed controllers.

- ▼ **Line signalling:** RS-485
- ▼ **Wiring:** shielded, twisted pair
- ▼ **Network protection:** dual tranzorbs, PTC
- ▼ **Communications speed:** up to 115.2k baud, selectable termination resistor. All GPC controllers are shipped at 38.4k baud.
- ▼ **Network configuration:** multidrop bus, per RS-485 specification and practice
- ▼ **Protocol:** BACnet MS/TP
- ▼ **Diagnostics:** LEDs indicate activity and communications integrity



STATbus Expansion Limits

- Up to 24 Additional Universal Inputs
- Up to 8 Additional Digital Inputs
- Up to 12 Additional Analog Outputs
- Up to 12 Additional Digital Outputs

IOX Modules

One (1) Universal Input Resistance, 0-5 VDC, 0-10 VC, 0-20mA No External Power Supply Needed	SSB-FI1	SSB-DO1 SSB-DO2	One (1) Digital Output (Relay) Two (2) Digital Outputs (Relay) Max Load Up to 10 A up to 250 VAC/DC
One (1) Universal Input 0-10 VDC, 0-20mA Requires External Power Supply	SSB-UI1	SSB-DO1-I SSB-DO2-I	One (1) Dry Contact Input One (1) Digital Output (Relay) Two (2) Dry Contact Inputs Two (2) Digital Outputs (Relay) Max Load Up to 10 A up to 250 VAC/DC
One (1) Analog Output 0-10 VDC into One (1) kΩ Load 0-20mA into 250 kΩ Load	SSB-AO1	SBC-STAT	STAT1-D, STAT2-D, STAT3 Precon type 3, 10K thermistor (STAT1-D, STAT2-D) Direct Digital Sensor (STAT1-D, STAT2-D, STAT3) 12VDC
One (1) Pulse Input Updated Every 100 ms Measures Pulse width as small as 50 ms	SSB-DI1		