

The NB-GPC2 offers complete stand-alone control as well as full peer-to-peer capabilities with other devices on the same physical BACnet MS/TP network. Built-in control functions, such as closed-loop DDC allow the NB-GPC2 to be configured for a wide variety of control applications such as unit ventilators, fan-coil units, small air handlers, heat pumps, RTUs, and much more. Custom programming capability provides the user with the ability to perform custom user-defined sequences. The NB-GPC2 complies with ANSI/ASHRAE Standard 135-2001 BACnet.

### CONTROLLING CAPABILITIES

The NB-GPC2 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 program provides incredible flexibility and makes the NB-GPC2 suitable for many types of custom control applications. Full peer-to-peer capabilities allow the NB-GPC2 to supervise other controllers on the same network.

### INPUTS

- ▼ **Eight (8) Universal Inputs:** 24-bit resolution, can be programmed as 0 to 5 VDC, 0 to 10VDC, 0 to 20mA, scaled linear or thermistor
- ▼ **One (1) Pulse Counting Digital Input:** 5 to 29 V AC/DC opto-isolator, 10 pulses/sec

All input ranges can be inverted for reverse-reading sensors, and input polarity is selectable for digital inputs. Each analog input has programmable high- and low-alarm limits. Digital inputs can be programmed with debouncing, pulse counting, supervisory monitoring, and run-time totalization.

### OUTPUTS

- ▼ **Four (4) Analog Outputs:** 12-bit resolution, 0 to 10 VDC @ 20 mA, 0 to 20 mA current source, jumper selectable, tri-state LED indicators, diagnostic readback, diode protection
- ▼ **Five (5) Digital Outputs:** Up to 30 V, 1A, opto-isolated triac, LED indicators, varistor protection
- ▼ **One (1) Sensor Power Output:** 24 VDC @ 150 mA, PTC protection

The analog outputs can be scaled to any desired output units. Outputs can be linked to analog control loops, or may be written to by a custom program. The digital outputs can be programmed for on/off, pulsed-output, and minimum cycle time. Digital outputs also support run-time totalization with alarming.



### NETWORKING

Although the NB-GPC2 provides stand alone control, it also networks together with the entire American Auto-Matrix Native Series® BACnet product line. The NB-GPC2 will also network with any MS/TP BACnet device on an RS-485 network. The NB-GPC2 also communicates directly to the SAGEMAX Area controller through BACnet MS/TP and with 3<sup>rd</sup> party area controllers configured for BACnet MS/TP. For applications where color graphics are of importance, the NB-GPC2, via the SAGEMAX, can be networked to the Auto-Pilot™ software that enables a PC-compatible computer to provide a user-friendly interface with a network of distributed controllers.

- ▼ **Line signalling:** RS-485, Opto-isolated
- ▼ **Wiring:** shielded, twisted pair
- ▼ **Network protection:** dual tranzorbs, PTC
- ▼ **Communications speed:** 9,600 to 115.2k baud, selectable termination resistor
- ▼ **Network configuration:** multidrop bus, per RS-485 specification and practice
- ▼ **Protocol:** BACnet MS/TP
- ▼ **Diagnostics:** LEDs indicate activity

# NB-GPC2

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## FEATURES

- ▼ Stand alone or networked operation
- ▼ Sensor and output updated 10 times per second
- ▼ Various control modes (PID, etc.)
- ▼ 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

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## SPECIFICATIONS

### Mounting

- ▼ Flat surface with screws

### Terminations

- ▼ Pluggable screw terminal blocks

### Input Supply

- ▼ **Line Input:** 22 to 29 VAC 50/60 Hz @ 3.2 A max, PTC protection
- ▼ **Transformer:** Internal isolated switching power supply
- ▼ **Indicators:** LEDs for line power

### Operating Environment

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

### Dimensions

- ▼ **Overall Size:** 6.9 x 5.75 x 1.05 in. (17.53 x 14.61 x 2.67cm)
- ▼ **Shipping weight:** lb. (kg)

## 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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## WORLD HEADQUARTERS

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