# OPTIFLEX™ OF028-NR

## BACNET BUILDING CONTROLLER



**Automated Logic**
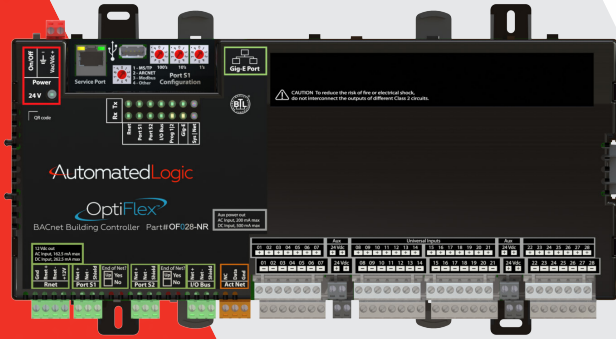
OptiFlex™

## BACNET BUILDING CONTROLLER

The OF028-NR provides the speed, power, memory, and I/O flexibility needed for the most demanding control applications in the industry. Capable of controlling multiple pieces of HVAC equipment simultaneously, this robust BACnet controller can support complex control strategies.

## KEY FEATURES AND BENEFITS

### Application Features

- Designed to address HVAC applications including complex central plants
- Graphically programmed through the EIKON® programming software, an object oriented tool that provides complete flexibility for any custom control sequence
- Supports Automated Logic's ZS communicating sensors, available in a variety of zone and equipment sensing options
- Enables live, visual displays of control logic, which uses real time operational data and aids in optimizing and troubleshooting system operations

### BACnet Features

- Conforms to the following device profiles:
  - BACnet Building Controller (B-BC)
  - BACnet BBMD (B-BBMD)

### System Benefits

- Connects seamlessly to the WebCTRL building automation system
- Multiple serial comunication ports to share data across a wide range of building subsystems

### Hardware Features

- Supports Gig-E, 1000 Mbps, BACnet IP and DHCP IP addressing
- Local Access Ethernet port at 100 Mbps for system start-up and troubleshooting
- Supports up to 9 FIO expanders in panel configuration or remotely mounted for scalable solutions (208 I/O total)
- Provides direct connect for power and communication for up to 7 FIO expansion modules when using a DC power supply
- All programs and historical data stored in non-volatile memory, eliminating the need for batteries
- Capacitor-backed real-time clock keeps time in the event of power failure or network interruption for up to three days
- Communications expansion port for future communication option cards
- Supports 200 Modbus points for system integrations
- USB port for local device updates
- DIN rail or screw mounting



**WebCTRL®**

The WebCTRL building automation system gives you the ability to understand your building operations and analyze the results. Integrate environmental, energy, security and safety systems into one powerful management tool that helps you reduce energy consumption, increase occupant comfort, and achieve sustainable building operations.

# SPECIFICATIONS

| Part # | OF028-NR<br>OptiFlex BACnet Building Controller |
|---|---|
| BACnet Conformance | Conforms to the BACnet Building Controller (B-BC) and BACnet Broadcast Management Device (B-BBMD) as defined in ANSI/ASHRAE Standard 135-2012 (BACnet) Annex L, Protocol Revision 14. |
| BACnet Objects | Maximum number of BACnet objects: 12,000 depending upon available memory. |
| Power | 24 Vac +/- 10% , 50 - 60Hz, 100 VA  \|  24 Vdc +/- 10%, 48 W |
| Control Programs | Maximum number of control programs: 999 depending upon available memory. |
| Third-Party Integration | Supports up to 1,500 third-party BACnet points and 200 Modbus points depending upon available memory. |
| Communication | |
|     BAS Primary Port | Dual, 10/100/1000 BaseT, full duplex, Ethernet port for BACnet/IP and/or BACnet/Ethernet, or Modbus TCP/IP communication |
|     Serial Port 1 | For communication with either of the following:<br>• A BACnet ARCNET network at 156 kbps<br>• A BACnet MS/TP network at 9,600 to 115,200 bps<br>• A Modbus serial network at 9,600 to 115,200 bps |
|     Serial Port 2 | For communication with a Modbus serial network at 9,600 to 115,200 bps |
|     Rnet Port | 12VDC @ 262.5mA supporting:<br>-Up to 15 ZS wireless and/or ZS sensors - freely mix ZS zone, ZS duct, ZS immersion and ZS outdoor sensors<br>-OptiPoint™ IAQ displays and OptiPoint equipment interfaces |
|     Act Net Port | Supports up to 16 OptiPoint smart valves and Automated Logic actuators |
|     Service Port | Ethernet port at 10 or 100 Mbps for setting up the controller and troubleshooting and connecting to the OptiPoint interface |
|     I/O Bus Port | Provides communications for up to 9 wired FIO expanders |
| Universal Inputs | 28 inputs configurable in the control program for 0-5 Vdc, 0-10 Vdc, 0-20 mA, RTD, thermistor, dry contact, pulse counter |
| Controller Microprocessor | 32-bit ARM Cortex-A8, 600 MHz, processor with multi-level cache memory, USB 2.0 host port |
| Memory | 8 GBs eMMC Flash memory and 512 MB DDR3 DRAM (22 MB available to use) |
| Protection | Device is protected by 2 fast acting, 5 mm x 20 mm glass fuses |
| Environmental Range | -40°F to 158°F (-40 to 70°C), 10–95% relative humidity, non-condensing.  Install in a UL listed enclosure only. |
| Compliance | **United States:** FCC compliant to Title CFR47, Part 15, Subpart B, Class A. UL Listed, File E143900; CCN PAZX, UL916, Energy Management Equipment; **AS/NZS:** RCM Mark 61000-6-3; **Canada:** UL Listed File E143900, CCN PAZX7, CAN/CSA C22.2 No. 205 Signal Equip., Industry Canada Compliant, ICES-003, Class A; CE Mark Compliant with 2014/30/EU, and RoHS Compliant: 2015/863/EU; **UKCA** Mark compliant with Electromagnetic Compatibility Regulations 2016 – Gov.UK and RoHS for Electrical and Electronic Equipment 2012. REACH Compliant |
| Plastic Rating | Fire-retardant plastic ABS, UL94-5VA |
| Mounting | 35mm DIN rail mounting or screw mounting |

**Figure 1: Physical Dimensions**



| | in. | cm |
|---|---|---|
| **Width:** | 12.75 | 32.38 |
| **Height:** | 6.95 | 17.68 |
| **Depth:** | 2.09 | 5.31 |
| **Weight:** | 2.7 lbs | 1.22 kg |

Assembled in the United States

10-23-2024